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A Normative Approach to Intergroup Contact

The role of ingroup norms regarding
interactions with members of the outgroup

Pablo De Tezanos-Pinto

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Thesis submitted for the degree of Doctor of Philosophy

University of Sussex

I hereby declare that this thesis has not been and will not be submitted in whole or in part to another University of the award of any other degree.

Signature:

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Thesis Summary

The main argument developed in this thesis is that individuals are not only affected by their own experiences of intergroup contact, but also by the contact they perceive is occurring around them. A pivotal reason for this is a change in the perception of ingroup norms regarding intergroup interactions, which can shape intergroup attitudes and make future positive intergroup contact experiences more likely.

Chapter 1 provides a review of the literature of intergroup contact and makes the case for the necessity of a normative perspective on intergroup contact research. In Chapter 2, I provide a brief overview of the literature regarding the effect of social norms in intergroup relations, and describe in more detail the theoretical model proposed.

Chapters 3 and 4 provide some initial evidence for the model using cross-sectional studies, showing that ingroup norms are associated with attitudes and with the intention of having intergroup contact, and that direct and indirect contact rely on different mechanisms to improve attitudes towards the outgroup. The effect of indirect contact is of a normative nature while the effect of direct contact is more emotional. Chapter 5 focuses on the distinction between ingroup norms about contact and ingroup norms about expressing prejudice, and the evaluation of moderators of the effect of ingroup norms.

Chapter 6 reports two longitudinal studies, providing some evidence in support for a causal effect of ingroup norms about contact on several outcomes; and Chapter 7 reports a series of experiments, including results showing that ingroup norms predict the success of an actual interaction with outgroup members.

In Chapter 8, I summarise the evidence for the theoretical model proposed and discuss some promising directions for future research, as well as the implications of these results for the reduction of segregation and the improvement of intergroup relations in general.

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Chapter 1

Intergroup contact

1.1 The contact hypothesis

The idea that contact between members of different groups can improve intergroup relations has inspired a research program that retains its dynamism despite six decades of research. Even though the start point of this research program is usually attributed to Allport (1954), research on intergroup contact had already started when he wrote *The Nature of Prejudice* (i.e. Brophy, 1945; Deutsch & Collins, 1951; Watson, 1947; Williams, 1947; Wilner, Walkley & Cook, 1952). It was based on this first wave of studies and discussion that Allport was able to provide the formulation of the contact hypothesis that would become the paradigm that intergroup contact research continues to build from and refine.

Early in the 20th century, scholars were already discussing the issues surrounding intergroup contact and its potential to improve intergroup relations. Some authors argued that segregation was a breeding ground for intergroup conflict, while others espoused quite the opposite viewpoint, arguing that contact under conditions of equality would engender "suspicion, fear, resentment, disturbance, and at times open conflict" (Baker, 1934, p.120, cited in Pettigrew, 1998). Indeed, this rationale is behind many segregation policies of "separate but equal" treatment, which have been advocated throughout modern history.

It was clear that not any kind of contact would produce the desired effect on intergroup relations, and in his book Allport (1954) reported some research in the U.S. showing that proximity with Blacks was associated with more prejudice, not with less. On the other hand, Brophy (1945) had shown that after desegregation of the Merchant Marine, the racial attitudes of White seaman became more positive the more voyages they took alongside Blacks, and the interdependency between the seamen in such voyages was thought to be an important factor in this context. A study by Deutsch and Collins (1951) focused on comparing ethnic-

ally segregated residential projects to areas where Black and White people lived in the same buildings. They found that housewives living in integrated residences showed much more tolerant attitudes than their segregated counterparts, reporting high levels of support for the idea of interracial housing and relying less on stereotypes.

With this early research and theorising in mind, Allport (1954) proposed that intergroup contact was a powerful and effective way to reduce prejudice if managed correctly. His formulation of the contact hypothesis described explicit situational conditions that would have to be met for intergroup contact to be successful. In current descriptions of the contact hypothesis, these conditions are usually summarised as equal status between the groups; acquaintance potential; intergroup cooperation (and common goals); and the support of authorities, law or custom (Brown & Hewstone, 2005; Pettigrew, 1998). The contact hypothesis that Allport developed had specific predictions and suggestions for research, and thus provided a framework for studies on intergroup contact to flourish. There is now considerable evidence to support the importance of the conditions he proposed.

Equal status. Social groups frequently differ regarding their status in society. Typically, the groups that are subject of prejudice and discrimination have a lower status, and Allport noted that left unrestrained such a difference in status would undermine any positive effect of intergroup contact. Within the contact situation, the participants should enjoy equal status in order for contact to improve attitudes. A paradigmatic example of this is the interaction between Black slaves and their White owners in the southern states of the U.S. Clearly, such interactions did little to improve White people's attitudes towards Blacks. Contact under such circumstances is likely to reinforce stereotypes and justify discrimination.

A study by Blanchard, Weigel and Cook (1975) provided support for this idea. They varied the perceived competence of a Black confederate during a training game, so that it would seem that he was worse, equal, or better than the participant. Attraction for the Black confederate was significantly higher when his performance was equal or better than the participant. In another study (Brown, 1984), children showed more tolerant attitudes and more liking for the other group when they anticipated an interaction with children belonging to a school of equal status, and less tolerant attitudes when the other school was either of lower or higher status than their own. In a more recent study (González & Brown, 2006), three different strategies for intergroup contact that proved effective in other conditions, were unable to change the attitudes of majority group members that enjoyed higher status within the contact situation.

Acquaintance potential. Allport (1954) argued that trivial contact was unlikely to produce attitude change, and that intimate contact was preferable. This distinc-

tion was later developed by Cook (1962, 1978), who coined the term 'acquaintance potential', referring to the idea that contact should be of sufficient frequency, duration and intimacy to provide participants the opportunity to get to know each other personally.

Stephan & Rosenfield (1978) provided strong support for this idea in a longitudinal study of attitudes of White children towards Mexican Americans. Children who had more frequent and close contact with other Mexican American children showed the greatest attitude improvement. The importance of this idea has been greatly underlined in later research. There is clear evidence that cross-group friendship is far more effective than casual contact for reducing prejudice (Pettigrew, 1998; Pettigrew & Tropp, 2006). And a fundamental process in friendship formation, the disclosure and exchange of personal information, has been identified as a pivotal mechanism by which intergroup contact, and cross-group friendships in particular, may reduce prejudice (i.e. Turner, Hewstone & Voci, 2007a).

Cooperation. Perhaps the most compelling piece of evidence for the importance of cooperation on the improvement of intergroup relations is the well known Robbers Cave Experiment (Sherif et al., 1961). The summer camp, in which children were assigned to two different groups, quickly became a setting of intergroup conflict, and competitive activities between "The Rattlers" and "The Eagles" greatly increased their hostility towards each other. Most importantly, when the time came to attempt the resolution of the conflict between the two groups, several activities involving mere contact produced no sign of improvement. Two activities that generated interactions between the groups in an enjoyable setting, a big feast and a fireworks display, proved to be ineffective and rather provided the opportunity for more conflict to arise. Only when superordinate goals were introduced, an activity that was important for the children and that required their cooperation to succeed, hostilities finally subsided. By the end of the experiment, children insisted on going back home in the same bus.

Later research has largely confirmed the importance of cooperation (Brown & Abrams, 1986; Ryan & Kahn, 1975), yet an important caveat needs to be added: the cooperative activity should be successful. In a study by Worchel, Andreoli, and Folger (1977) liking for outgroup members after a cooperative activity worsened after failure, arguably because the outgroup member may provide a convenient scapegoat to justify the negative outcome.

Normative support. Allport was very aware of the importance that the larger normative framework given by authority and laws can have on intergroup relations. Indeed, he was one of the experts that provided testimony in the case that later declared segregated schools to be unconstitutional (Brown vs. Board of Education, Topeka, Kansas, 1954). Arguably, it was only after policy changes such as

these, which eventually completely eliminated official support for segregation in the United States, that the racial attitudes and behaviours of Americans started to change for the better. Pettigrew (1991) provides a compelling description of how these policy changes generated a better social climate for intergroup relations both in the U.S. and in South Africa. Understandably, psychological research on the influence of authority and legislation entails considerable methodological difficulties and therefore has been quite scarce. But Allport also mentions custom, along with authority and law. The more informal social climate, which indeed can be changed by top down approaches such as laws, has been the focus of some research.

In another study of racially integrated housing projects (and it should be noted that integrated housing was a government initiative), Wilner et al. (1952) observed that ethnically mixed housing provided a social climate that favour interracial interactions. People living in segregated buildings would consider intermixing with Blacks something that "it's just not done", while people in integrated buildings considered that their White friends would be perfectly fine with the idea of having interactions with Blacks.

In contrast with the detailed description of the situational conditions in which contact would be effective, Allport's formulation of the contact hypothesis was less explicit regarding the process by which intergroup contact would reduce prejudice. Still, some comments can be made in this regard. Though Allport did give some importance to the opportunity to learn more about the outgroup through intergroup contact, the main explanation for the effect involves a reconceptualisation of group categories that is based not only on new information, but most importantly on the emotional processes associated with human interactions.

Allport's view of prejudice was explicit about the pivotal importance of emotions compared to discourse, and throughout the book he provided examples in which stereotypes and prejudiced discourse are immune to rational arguments and new information, and rather used as a rationalisation for an underlying feeling of antipathy. As we will see later in the chapter, a better understanding of the psychological process involved in intergroup contact has been, and continues to be, a major topic for research.

As we have seen, research on intergroup contact has largely confirmed Allport's ideas, but there have also been important additions and refinements regarding the conditions in which intergroup contact is most effective, the mechanisms that explain its effect, the generalisation beyond the specific contact situation, and the ability of indirect forms of intergroup contact to improve intergroup relations. Before we examine these, however, let us turn again to the more fundamental question of the effectiveness of intergroup contact for improving intergroup rela-

tions. After six decades of research, one would hope we can answer this question with some confidence.

1.2 Does intergroup contact reduce prejudice?

Yes. There is now considerable evidence that reliably shows a causal relation between good quality intergroup contact and reduced prejudice. Perhaps the most clear and explicit test of the contact hypothesis was developed by Cook (1984), who deliberately selected highly prejudiced individuals to participate in an intervention designed with all the main components of the contact hypothesis in mind.

The situation to which these prejudiced participants were exposed involved frequent interactions with two confederates, one White and one Black. Their task was to operate an imaginary rail-road system for more than forty sessions, and the successful completion of this task involved winning a monetary reward. Though the task was not set up to be easy, and the groups had some failings in the process, they eventually succeeded. The interaction was designed to be interdependent, have acquaintance potential, equal status and a supportive climate for interracial association. This last factor was manipulated by having supervisors of mixed ethnicity, as well as an informal situation in which the Black confederate related a story in which he had been victim of discrimination and the White confederate mentioned his disapproval of such discriminatory behaviour.

This experiment provides an excellent test of the contact hypothesis because it involved participants that reported high levels of prejudice beforehand, and designed an intervention that introduced theoretically ideal circumstances. After the intervention, participants reported favourable attitudes towards their black co-worker and, most importantly, these views generalised towards Blacks in general. Months later, people who participated in the intervention reported more positive attitudes towards Blacks than participants in a control group.

The contact hypothesis has also withstood tests in challenging real life settings. Several studies have shown that intergroup contact, and cross-group friendship in particular, is an important predictor of positive attitudes in context of high intergroup conflict, such as the relations between Catholics and Protestants in Northern Ireland (Hewstone et al., 2006) and Muslims and Serbs in Bosnia (Cehajic, Brown & Castano, 2008).

A meta-analysis of more than 500 studies testing the contact hypothesis provides evidence of a relationship between contact and prejudice (Pettigrew & Tropp, 2006). In total, this meta-analysis includes studies published throughout the history of intergroup contact research, including approximately 250,000 individuals from 38 different nations, and thus integrating results from many different inter-

group contexts. The main result of this meta-analysis is that intergroup contact does show a reliable moderate association with reduced prejudice ($r = -.21$), with 94% of the studies reporting the expected inverse relation between contact and prejudice. Yet more specific analyses provided further support for the contact hypothesis, and should be considered in some detail.

Not only the mean effect size is significant, but it is considerably larger when better methodologies are used; the mean effect size for experiments is $r = -.34$ and for quasi-experiments is $r = -.24$. Similarly, the quality of the measures of intergroup contact was also associated with larger effect sizes. Experimental manipulations and multiple items measures with good reliability ($\alpha > .70$) also showed significantly larger effects ($r = -.30$ in both cases). These results greatly increase the confidence in concluding that there is indeed a relation between intergroup contact and prejudice: especially the fact that the relation in controlled experiments is significantly stronger.

Another key issue regarding the effectiveness of contact is the question of whether the positive outcomes in the contact situation will be generalised towards the outgroup as a whole. Many early studies of intergroup contact failed to find evidence for such generalisation, and of course intergroup contact would not be an effective intervention without it. Pettigrew and Tropp (2006) were able to compare some studies that measured the effects of contact in the outgroup members within the situation with the bulk of studies that focused on a generalised prejudice measure. The relation between contact and improved attitudes towards outgroup members in the situation was comparable to the relation with attitudes towards the outgroup as a whole ($r = -.23$ and $r = -.21$, respectively), supporting the idea that the situational improvement on attitudes does generalise. I will return to this topic in greater depth later on.

Finally, Pettigrew and Tropp (2006) were also able to test the role that Allport's (1954) conditions have as moderators of the contact-prejudice relation. Consistent with the contact hypothesis, they found that intervention programs that were explicitly structured to meet Allport's conditions were better able to reduce prejudice ($r = -.29$) than those programs that did not ($r = -.20$). And this effect remained significant after controlling for methodological quality. Another result that supports Allport's hypothesis is that the setting in which intergroup contact takes place also moderates its effectiveness. Contact during tourism and travel was less effective in reducing prejudice ($r = -.11$) than contact in recreational and laboratory settings ($r = -.29$). As Pettigrew and Tropp (2006) noticed, these results seem to imply that Allport conditions should be considered facilitating rather than essential conditions as it was originally proposed.

1.3 Contact to prejudice or prejudice to contact?

A long standing topic on intergroup contact research has been the causal direction of the relation that is commonly observed between intergroup contact and prejudice. It seems reasonable to expect that highly prejudiced individuals will avoid engaging in contact with outgroup members; and if the situation requires them to have contact, it will be of less quality than that of more tolerant individuals. If this is so, could it be that the observed relation does not reflect the causal direction described in the contact hypothesis?

Of course, experiments like the one by Cook (1984) described at the beginning of the previous section show that intergroup contact, when properly managed, does bring about prejudice reduction (see also Brown, Vivian & Hewstone, 1999; Wilder, 1984; Wolsko et al., 2003). As shown in Pettigrew and Tropp's meta-analysis (2006), the observed relation is actually stronger in experiments compared to survey studies. Even though this is enough to support the ideas of the contact hypothesis, it does not suffice if we want to understand the process of intergroup contact as it occurs in natural settings. Survey studies typically find a correlation between the amount and quality of intergroup contact and intergroup attitudes. Does this reflect contact-to-prejudice effects?

In cross-sectional studies, some researchers have used statistical methodologies that allow to estimate the strength of each path separately; from contact to attitudes and from attitudes to contact. In general they have found that even though both paths are significant, the path from contact to prejudice is stronger (Pettigrew, 1997; Powers & Ellison, 1995).

But this question is best answered using longitudinal methodologies that can separate these effects at different time points. Even though longitudinal studies of intergroup contact are still relatively scarce, there are strong indications that both causal directions are at play. In a recent longitudinal study, Binder et al. (2009) documented the attitudes and intergroup contact with minorities using a large sample in Belgium, Germany and the United Kingdom. As expected, they found that intergroup contact was associated with improved attitudes towards minorities after six months, but they also found an equally strong relation on the opposite direction. Other studies have reported similar results (Eller & Abrams, 2003, 2004; Levin, van Laar & Sidanius, 2003). It seems most likely then that both effects are at play, more prejudiced people avoid intergroup contact and intergroup contact reduces prejudice.

1.4 Towards a theory of intergroup contact

So far we have discussed research that has been developed to show the effectiveness of intergroup contact, and the situational conditions that are particularly relevant for intergroup contact to reduce prejudice. The reasons and mechanisms by which interacting with outgroup members can improve attitudes towards the outgroup received less attention in early research, and their study only started in earnest after it became clear that identifying additional conditions for the effectiveness of contact is not very fruitful if not accompanied by a better understanding of the psychological process by which contact improves attitudes. Indeed, given the results of Pettigrew and Tropp's (2006) meta-analysis regarding the conditions for successful contact, the moderators proposed by Allport (1954) may already be too many.

Another fundamental theoretical development was prompted by the appearance of social identity theory, and in particular by the results of minimal group experiments that showed that the simple fact of belonging to a group typically leads people to favour that ingroup over an outgroup (Tajfel & Turner, 1979, 1986). Based on this theoretical framework, three different strategies for optimal intergroup contact were proposed. Brewer and Miller (1984) argued that because of this natural tendency for ingroup favouritism, intergroup contact should strive to eliminate group boundaries to achieve greater personalisation during the interactions. Hewstone and Brown (1986) argued that categories must be retained in order for any positive experience with individuals to be generalised towards the group as a whole, and therefore contact should be framed on an intergroup rather than an interpersonal setting. Finally, Gaertner et al. (1989) proposed that the ingroup favouritism could be used advantageously if the group categories can be re-drawn during the interaction so that the participants perceive themselves as one common ingroup. All these models have been revised and refined during the last few decades, but their research programs have greatly increased our understanding of intergroup contact. As Brown & Hewstone (2005) point out, the apparent incompatibility of the models stems from the dichotomy between interpersonal and intergroup behaviour proposed by Social Identity Theory (Brown & Turner, 1981; Tajfel, 1978). Later research supports the idea that interpersonal and intergroup are not two opposite poles of the same dimension (Hewstone, 1996; Stephenson, 1981), and that both personalisation and salience of group categories are necessary for contact to have positive effects on intergroup relations.

1.4.1 During the interaction

Brewer and Miller's decategorisation model (1984) is based on the importance of establishing personalised and intimate interactions that, rather than being "contaminated" by group membership, can focus on the individual characteristics and experience of participants. In order to evaluate this model, they manipulated participants' social orientation as either interpersonal, where participants would strive to get to know the outgroup members, or task-oriented, where participants would be likely to rely more heavily on category information and disregard interpersonal knowledge as irrelevant to the task at hand (Bettencourt et al., 1992). Using a minimal group paradigm, participants were instructed to develop a list of personal characteristics that they had and that would be particularly important for an astronaut to have. In the task-oriented condition, they were asked to pay attention and form an accurate impression of the quality of the lists produced by the outgroup members with whom they were interacting. In the interpersonal condition, participants were asked to pay attention and form an accurate impression of what the other participant is really like. Subsequent measures of bias showed a clear difference between these two social orientations; it was considerably less in the interpersonal condition and even completely absent when the interaction was both interpersonal and cooperative.

The importance of intimate and personalised contact was already clear in Allport's formulation, and was later further underlined by Cook with the coining of the term acquaintance potential as a pivotal condition for successful intergroup contact (Cook, 1962, 1978). Throughout this line of thinking, two psychological processes that explain the positive effects of intergroup contact have been advanced. Firstly, more personalised interactions should lead to the gradual disconfirmation of stereotypes as more information about outgroup members becomes available. Second, personalised interactions will produce strong affective ties between the ingroup and outgroup members. Let us examine each of these in turn.

Knowledge

The role of increased knowledge of outgroup members and disconfirmation of stereotypes was perhaps the only mechanism of intergroup contact that was explicit in Allport's analysis, and even before (Williams, 1947). Increased contact with outgroup members provides first-hand information about the outgroup, and should therefore weaken pre-existing stereotypes and lead to the discovery of similarities between the two groups (Stephan & Stephan, 1984, Pettigrew, 1969). A study by Stephan and Stephan (1984) showed evidence for knowledge as a mediator of

intergroup contact; White American students that had more contact with Hispanic students evidenced more knowledge of Hispanic culture, which in turn was related to more positive attitudes. Another meta-analysis by Pettigrew and Tropp (2008), this time focusing on mediators of intergroup contact, provides good evidence for this process. But even though knowledge was a significant mediator of intergroup contact, it was considerably less strong than the other, more emotional mediators that were considered in the analysis. The difference does not stem from the relation between contact and increased knowledge about the outgroup, which was just as strong as in the other mediators, but between increased knowledge and more tolerant attitudes. Even though this relation was significant, it was considerably weaker.

Self-disclosure and friendship

The sharing of personal information and feelings with others is a fundamental process in developing and maintaining close interpersonal relations (Hogg & Vaughan, 2008). People tend to reveal more about themselves to others they like and trust, and they feel more positive about people who share personal information with them (Vittengl & Holt, 2000). Seeking a greater degree of personalisation during intergroup interactions seems therefore a good way to improve intergroup attitudes, since it would increase the liking for outgroup members and promote the development of close interpersonal relationships. In the study by Bettencourt et al. (1992) discussed above, we saw that when participants focused on learning about how outgroup members were really like based on the list of characteristics they provided, they showed consistently less intergroup bias than when they were focused on the task. Arguably, in the interpersonal condition the listed characteristics acted as a form of self-disclosure of intimate information. A clearer test of this idea was provided by Ensari and Miller (2002), in two experiments that directly manipulated self-disclosure. When participants were encouraged to share personal information with each other during intergroup interactions they consistently showed more positive attitudes towards new and unknown outgroup members.

A similar argument was made by Pettigrew (1997, 1998), who proposed that cross-group friendships, because they are characterised by trust and self-disclosure, would be a particularly effective form of intergroup contact. In Pettigrew and Tropp's meta-analysis (2006), intergroup contact also showed a stronger relation with reduced prejudice when the measures focused on cross-group friendship, and other studies have also shown that friendship has a stronger influence on intergroup attitudes (Hamberger & Hewstone, 1997; Phinney, Ferguson & Tate, 1997).

Turner, Hewstone & Voci (2004) provided the first explicit test of self-disclosure as a mediator of intergroup contact. They measured attitudes towards Asians in school children in the U.K., and found that cross-group friendship was associated with more positive attitudes towards Asians in general, and that the effect was partially mediated by increased self-disclosure.

1.4.2 Beyond the interaction

It seems clear that a greater degree of personalisation and self-disclosure during intergroup encounters can lead to warm, positive and enjoyable interactions with outgroup members, but it is less clear how this would translate to generalised attitudes towards the outgroup as a whole. This process of generalisation beyond the particular outgroup members with whom people have interacted has been an important concern on intergroup contact research (Allport, 1954; Cook, 1978), and was further developed by Hewstone and Brown (1986) in their intergroup contact model. If we take the advice of the decategorisation model rigorously, how will individuals make the connection between the outgroup members with whom they interacted and the outgroup? Hewstone and Brown (1986) argued that unless the interaction is understood by participants as an intergroup situation, the positive outcomes that may be achieved will be limited to the interaction partners and "will leave divisive and conflictual intergroup relations unchanged" (Hewstone & Brown, 1986, p. 16). Allport (1954) also considered this to be an important factor to take into account, and reasoned that people may tend to dismiss positive affect towards an outgroup member and any counter-stereotypical information as not representative of the outgroup, thus preventing any change on intergroup attitudes.

In Hewstone and Brown's (1986) model, salience of group categories has a fundamental role to play on intergroup contact as the variable that allows the generalisation from positive interactions to positive attitudes towards the outgroup in general, and there is considerable evidence to support this claim. An experiment by Wilder (1984) manipulated both group typicality of the outgroup member and how pleasant and warm they behaved during the interaction, finding that the attitudes towards the outgroup only became more favourable in the case of a pleasant interaction with outgroup members that were also perceived as typical of their group. A later study by Brown et al. (1999) documented the role of group salience using a survey study of national attitudes in Europe. Participants were asked about their intergroup contact experience with a person from another country, how salient their nationality was in their relationship and how much would they like to live in the country in question. As expected, the salience of national categories was

a reliable moderator of the relation between intergroup contact and desire to live in the other country. Only when nationalities were highly salient did intergroup contact improve attitudes towards the outgroup country as a whole.

The same moderating role of group salience was found in another study that focused on the relations between the U.K. and France: intergroup contact was only correlated with attitudes towards French people in general under high salience (Brown et al., 2001). Another similar study (González & Brown, 2003) replicated these results, finding that intergroup contact was more effective in improving intergroup attitudes when salience of intergroup categories is high, and complemented them with a more direct test of generalisation. Participants were asked to provide ratings of several attributes both for the outgroup members they knew and for the outgroup country in general, thus allowing to compute correlations between the ratings of individual outgroup members and the ratings of the country. In accordance with the model, the individual-country correlations were significantly higher when the national categories were salient during contact.

The role of group salience as a moderator of the effect of intergroup contact is not limited to national attitudes. Similar evidence has been provided in the context of relations with the elderly (Harwood, Hewstone, Paolini & Voci, 2005), indigenous people (Gonzalez et al., 2003b), political parties (Gonzalez et al., 2003a), immigrants (Voci & Hewstone, 2003) and relations between Catholics and Protestants in Northern Ireland (Hewstone et al., 2003). A study by Brown et al. (2007) also showed this moderation effect longitudinally, examining attitudes of students in a state school towards a nearby private school. Only when group categories were reported to be high in the first measurement did contact reduce negative stereotypes about the other school four months later. In sum, as long as the cross-group interaction is positive, maintaining and even underlining group categories will be beneficial because it provides the psychological link between the individual outgroup members and the outgroup in its entirety.

Intergroup Anxiety

Research on intergroup anxiety provides a clear example of the interplay between generating a positive relation with outgroup members during the interaction, and allowing this new positive experience to be generalised beyond the interaction situation, improving the attitudes towards the outgroup. Since Stephan and Stephan (1985) proposed the idea, a considerable number of studies have shown that individuals experience anxiety when engaging or simply anticipating a situation in which they have to interact with an outgroup member. A study by Blascovich et al. (2001), showed that participants experienced considerable anxiety and

threat when interacting with physically stigmatised individuals, using subjective, physiological and behavioural measurements. Another study by Richeson et al. (2003) monitored White participants interacting with a Black confederate and showed that these interracial interactions impaired their executive functioning, generating short term resource depletion (see also Richeson & Shelton, 2003). This is one of the reasons why intergroup anxiety can be so detrimental for intergroup attitudes, because individuals are more likely to rely on heuristics and stereotypes under these conditions. In a follow up study, the same effect was found for Blacks interacting with Whites (Richeson et al., 2005).

In a way that is reminiscent of the treatment of specific phobias, intergroup contact may be both the cause and the solution of the problem of intergroup anxiety. The anxiety that people experience in intergroup contact situations can be reduced by providing individuals the opportunity to have positive experiences with outgroup members. Furthermore, this reduction of anxiety should lead to an improvement of intergroup attitudes. Islam and Hewstone (1993) were the first to test the role of intergroup anxiety as a mediator of the effect of cross-group contact on intergroup attitudes. They observed that high quality contact between Muslim and Hindus in Bangladesh led to reduced intergroup anxiety, which in turn led to more favourable intergroup attitudes. This mechanism has been corroborated in many intergroup contexts (e.g. Greenland & Brown, 1999; Harwood et al., 2005; Hewstone et al., 2006; Voci & Hewstone, 2003), and by now intergroup anxiety is the most studied and reliable mediator of intergroup contact (Pettigrew & Tropp, 2008).

The idea that intergroup contact can lead to a considerable reduction on intergroup anxiety over time has also been tested experimentally, showing that participants that experienced intergroup contact reported significantly lower levels of intergroup anxiety than those that only engaged on contact with other ingroup members. A particularly noteworthy study by Page-Gould, Mendoza and Tropp (2008), tested this idea using both physiological measures and a diary study to assess longer-term effects. In the context of White and Latino relations in the U.S., they exposed participants to a series of three meetings, either with an outgroup member or with a member of the same group. The study included measures of cortisol reactivity to assess stress during the interactions, as well as implicit prejudice and race-based rejection sensitivity (i.e. fear of rejection by outgroup members because of the participant's ethnicity), because individuals with increased levels on either of these variables were expected to experience greater intergroup anxiety. Given that the study was done in an ethnically heterogeneous campus, they also asked participants to report in a diary their experiences and cross-group interactions after the intervention. As expected, both Latino and White parti-

cipants showed a manifest reduction on their cortisol reactivity throughout the sessions. This reduction was only apparent for participants high on race-based rejection sensitivity or implicit prejudice, because only they experienced intergroup anxiety in the first session (i.e. higher levels of cortisol than their pre-meeting baseline). In the diary follow up, participants in the cross-group interaction condition reported less intergroup anxiety than the control group (though the relation was only marginally significant), and participants that scored high on implicit prejudice before the study initiated more intergroup interactions in the experimental condition than in the same-group control condition.

In Page-Gould and colleagues' (2008) study, the cross-group interactions were structured to induce self-disclosure of personal information using questions based on the fast friends procedure (Aron et al., 1997) and to generate cooperation, by making participants play Jenga and offering them an incentive for the total number of blocks pulled from the tower. Even though ethnicity was probably apparent to participants, it was not mentioned explicitly during the interactions. What can be the merit of making group categories salient in these situations? In the study by Islam and Hewstone (1993) outlined above, they also measured to what extent the cross-group contact reported by participants was seen as individual or intergroup, and found that perceiving the interactions in terms of group memberships was associated with greater levels of intergroup anxiety. Another survey study by Greenland and Brown (1999) asked British and Japanese students to what extent they perceived their interactions with outgroup members of these countries to be reflective of individual personalities and nationalities and culture, using separate measures. Both of these variables affected intergroup anxiety; perceiving the interactions as interpersonal was associated with less, while perceiving the interactions as intergroup was associated with more. Intergroup anxiety, in turn, was associated with less tolerant attitudes.

But the benefits of making group categories salient in Hewstone and Brown's (1986) model relate to the process of generalisation from the positive intergroup interactions to the outgroup as a whole. If this is so, category salience should moderate the effect of intergroup contact in reducing intergroup anxiety beyond the specific contact situation. Voci and Hewstone (2003) focused on answering this question in the context of attitudes towards immigrants and immigration in Italy. As expected, intergroup contact reduced intergroup anxiety, which in turn improved attitudes towards immigrants. Salience of group categories during contact moderated two of these relations: intergroup contact was more strongly associated with intergroup anxiety as well as more tolerant attitudes under high salience. In a follow up study, they replicated these results and also included a measure of support for immigrant rights. Intergroup contact was only associated

with reduced intergroup anxiety when participants reported high levels of category salience during contact. Furthermore, category salience also moderated the effect of contact on attitudes and the relation between attitudes and support for immigrant rights. Attitudes towards immigrants generalised to policy support only when categories were salient during contact.

It seems that even though category salience may indeed increase intergroup anxiety during the interactions, it is worth paying this price in order to facilitate the generalisation from the specific outgroup members encountered to new, unknown, outgroup members. In Page-Gould et al.'s (2008) study the reduced levels of cortisol in subsequent meetings were in response to the same outgroup member, and the results in the follow up measures with new outgroup members, though encouraging, were less strong. A distinction introduced by Paolini (2008) between *episodic* and *chronic* intergroup anxiety may be particularly clarifying in this context: even though category salience may increase intergroup anxiety during the situation, it will be instrumental in order to generate changes in chronic levels of intergroup anxiety prompted by interactions with novel outgroup members.

Empathy

The effect that feeling empathy towards outgroup members has on intergroup attitudes is well documented (Finlay & Stephan, 2000; Galinsky & Moskowitz, 2000). Batson et al. (1997) were the first to study the role of empathy on intergroup attitudes experimentally. In the first experiment, they instructed participants to listen to a (fictitious) interview of a woman with AIDS under two different dispositions; trying to be objective, or focusing on understanding what the other person must be feeling and how it has affected her life. As expected, participants in the empathy condition reported significantly more positive attitudes towards people with AIDS than participants in the objective condition. A second experiment following the same procedure replicated these results now in the context of attitudes towards the homeless, and a third one attempted to induce empathy towards convicted murders. Even though the effect was less reliable on an immediate assessment of attitudes in the laboratory, a follow up a few weeks later showed that the participants in the empathy condition reported more positive attitudes than the control group. Because Batson et al., included a measure of empathy as a manipulation check, they were able to show that most of the effect of the empathy condition was indeed due to an increase in empathy towards the interviewed outgroup member.

Research on the effect of intergroup contact on empathy, and in particular on empathy as a mechanism for the positive effects of intergroup contact on attitudes towards different outgroups has been less frequent, especially compared to the

number of studies that have included intergroup anxiety as a mediator (Brown & Hewstone, 2005; Pettigrew & Tropp, 2006). But there is considerable evidence that empathy is just as important. In Pettigrew and Tropp's (2008) meta-analysis, empathy was found to be a strong and reliable mediator of the effects of intergroup contact. Even though the meta-analysis of the mediation by empathy only included nine studies, the paths from contact to empathy and from empathy to attitudes were comparable to those for intergroup anxiety, strongly suggesting that it is an important underlying process by which intergroup contact improves attitudes.

Harwood et al. (2005, Study 2) measured a large array of potential mediators of intergroup contact effects on attitudes towards the elderly; notably self-disclosure, intergroup anxiety and empathy. When all mediators were entered together in the analysis, only the mediation by empathy of the effect of quality of contact on attitudes towards the elderly remained significant. As in the studies by Batson et al. (1997), empathy was measured focusing on the individual, rather than on the group in general. Paralleling the distinction between episodic and chronic intergroup anxiety, there are reasons to expect that both specific empathy towards an outgroup member and empathy towards the situation of a group are an important part of the process of intergroup contact. As with intergroup anxiety, the salience of group categories during contact may be necessary to link the empathy that may be felt towards particular individuals to the empathy and attitudes towards the outgroup as a whole.

Evidence for this process comes from the same set of studies about attitudes towards immigrants in Italy that found the moderation by salience in the case of intergroup anxiety and were described in the previous section (Voci and Hewstone, 2003), because the studies also included a measure of generalised empathy. The evidence for a moderation by category salience was particularly strong. In all three studies the relation between intergroup contact and empathy towards the outgroup was only significant when group categories were salient during contact.

The importance of empathy as a mechanism for intergroup contact effects is also consistent with research on what has been termed inclusion of the outgroup in the self (IOS). The reasoning behind IOS is closely related with research on interpersonal relations as well as social identity theory. Studies on friendship formation have shown that part of the process involves a linking between the other and the self, thus allowing for feelings of closeness and positive affect (Aron et al., 1991; Aron, Aron & Smollan, 1992; Aron & Aron, 1996). Similarly, in the case of social identity, one of the possible reasons for the ingroup preference that is typically observed is that when people identify with their group the ingroup and the self become psychologically linked, thus making ingroup preference part of a more general self-preference tendency (Tropp & Wright, 2001). Because empathy

is a vicarious emotional state triggered by the experiences of others, it may indeed be related with a closer link between the self, the ingroup, and the outgroup (Schubert & Otten, 2002; Wright, Aron & Tropp, 2002). A series of studies by Page-Gould et al. (2010) provide strong evidence that including the outgroup in the self is indeed a relevant mechanism by which intergroup contact can improve intergroup attitudes. Participants inclusion of the outgroup in the self was related to the closeness they felt towards their outgroup friend, and IOS also predicted less anxiety during interactions with novel outgroup members.

1.4.3 Feeling like one group

In the Robbers Cave Experiment (Sherif et al., 1961), hostilities between the two groups of children only died down after superordinate goals and cooperation were introduced. Even though there are many reasons why cooperation could improve relations between two groups, the generation of a new cognitive representation in which previous outgroup members are now perceived a part of a new and more inclusive ingroup stands out as particularly promising. Bringing a broken truck back to the camp site is a good way for Rattlers and Eagles to feel that they are in this together. Gaertner et al. (1989) argued that encouraging people to think of the contact situation as 'one group' will lead to reduced bias because members of the previous outgroup will now enjoy the benefits of ingroup preference. This idea has now been developed into a model of intergroup contact backed up with an extensive body of research, which not only proposed a strategy for contact to be successful, but also introduced the recategorisation into a common identity as an important mechanism to explain the effect of cooperative contact (Gaertner & Dovidio, 2000).

Gaertner et al. (1989) devised an experiment to test this idea by manipulating the cognitive representations of participants during the interaction. In each session, two artificial groups of three participants engaged in a cooperative intergroup activity that stressed one of the following representations: separated individuals, one group, and a control condition in which previous group categories were maintained. The manipulation of these representations included seating arrangements and different colour tags. For example, in the one group condition participants seated alternately, each individual seated between two members of the other group, while in the two groups condition the two groups were facing each other and in the separate individuals condition they used individual tables. Both recategorisation conditions generated a reduction on ingroup bias compared to the control condition. In the case of the recategorisation as separate individuals, the reduction of bias came about by a worsening of the attitudes towards previous

ingroup members, while in the one group condition it was due to an improvement of attitudes towards previous outgroup members.

In another study that followed a similar procedure (Gaertner et al., 1990), the two groups engaged in a contact situation that was either cooperative, where participants were faced with a problem and had to reach a consensus solution that would entitle them to win a prize; or non-cooperative, where participants simply worked on the problem in the same room, but individually. As expected, the presence of cooperation strongly increased the perception of the interaction being characterised as one group rather than two groups. Furthermore, understanding the interaction as representative of one group was associated with less ingroup bias in the evaluation of their interaction partners, while the perception of the interaction as two different groups was associated with more bias. The change on the cognitive representations of the situation fully mediated the positive effect of cooperative contact.

As promising as these results are, some limitations of this original model become immediately apparent when thinking of using it in most real life intergroup situations. The first one is how these positive effects during the interaction can be generalised towards the rest of the outgroup. Just as with the decategorisation model, the extent to which an intervention is successful in erasing previous group boundaries will be detrimental to the psychological link between the outgroup members and the outgroup as a whole. In the experiments just described, there is no generalisation because all three outgroup members are present during the interaction, and the way the group formation stage was set up left no room for including an evaluation of new and unknown outgroup members as was done in Bettencourt et al's (1992) study. A second limitation relates to how receptive individuals will be when encouraged to leave behind their group memberships in real life, in favour of a new and more inclusive category. The experiments by Gaertner and colleagues introduced the recategorisation phase after only a short activity to generate group cohesion in the original groups, but peoples' social identities in real life an important part of their self-concept and will not be easily dismissed (Tajfel & Turner, 1986).

This issue is particularly relevant for minorities. They have the most to lose from a redrawing of group categories into a superordinate identity because majority and high status group will have a better position to define this new category in their own image, and indeed they have a tendency to do so (Wenzel, Mum-mendey & Waldzus, 2007). These limitations have lead to a modification in the original strategy, which effectively integrates the common ingroup identity model with the intergroup contact model of Hewstone and Brown (1986). The idea is to maintain and underline both the original group categories and the new super-

ordinate category simultaneously, generating a dual identity in which the ingroup and the outgroup are part of a larger category. This dual identity strategy has shown positive results in several intergroup settings (Dovidio, Gaertner & Saguy, 2007; Gonzalez & Brown, 2006; Hornsey & Hogg, 2000).

1.4.4 Intergroup contact theory

As we have seen, much of the efforts of recent research on intergroup contact have been focused on a more complete understanding of the psychological process that is generated by effective contact between ingroup and outgroup members. A recent theoretical review by Brown and Hewstone (2005) describes a theory of intergroup contact that successfully integrates the results of this research, as well as theoretical models previously thought antithetical. Most of this chapter is based on Brown and Hewstone's article, but it may be worth to end this section by shortly outlining some the fundamental ideas of their understanding of intergroup contact.

The importance that generalisation from the contact situation to new situations and to the outgroup as a whole had in the original model by Hewstone and Brown (1986) has prompted researchers to explicitly understand intergroup contact as a two-stage process. The reduction of prejudice brought about by intergroup contact is due to an increased liking of particular outgroup members with which people have contact, that is then generalised towards the outgroup as a whole¹. The importance of the first stage was underlined by the research of Brewer and Miller's decategorisation model (1984), and self-disclosure and friendship formation are fundamental mechanisms in this context. Indeed, Pettigrew (1998) considers friendship potential to be an essential condition for successful intergroup contact. Research on the intergroup contact model has also provided strong evidence for a second essential condition: there can be no generalisation from the individuals to the outgroup without category salience.

The main difficulty is that frequently these two essential conditions negatively influence each other. Salience of group categories in the contact situation is likely to increase anxiety and withdrawal, especially on prejudiced individuals. And personalisation and self-disclosure can lead participants to minimise group membership. Following this reasoning, Pettigrew (1998) proposed a sequential model in which participants would first go through a personalisation phase, and group cat-

¹This is by no means the only possible way for contact to reduce prejudice, and indeed others have been proposed. The main argument in Brewer and Miller's (1984) decategorisation model, for example, was that group categories would simply cease to be useful for individuals, and thus intergroup contact would lead to treat people by their own merits rather than their group memberships.

egories would only be introduced after it was successfully completed. Even though this may be a good strategy for the design of effective interventions, Brown and Hewstone (2005) have shown that it is possible to develop cross-group friendships without sacrificing group membership, and indeed it must be, given that most studies have found a relation between intergroup contact and a reduction of prejudice towards the outgroup as a whole.

1.5 Extending the contact hypothesis

One of the most exiting recent developments on intergroup contact research is what has been termed the “extended contact effect”. Wright et al. (1997) proposed that simply knowing of ingroup members that have contact with outgroup members may reduce prejudice. To some degree, this indirect effect of intergroup contact was present on previous research, but Wright et al. (1997) effectively isolated it as a separate process, thus providing a promising new direction for intergroup contact research.

In Wilner and colleagues (1952) study of integrated housing projects, one of the reasons that people showed more positive attitudes on integrated settings was that they were more likely to observe positive interactions between ingroup and outgroup members, and they also had more positive expectations about the approval of intergroup interactions by their ingroup neighbours. The intervention by Cook (1984) that effectively improved attitudes in prejudiced individuals included both direct and indirect contact, since an ingroup confederate was instrumental in providing normative support. But in both of these designs the effects are confounded. In order to test the extended contact hypothesis, the direct and indirect effects of intergroup contact need to be measured or manipulated separately. And this is precisely what Wright and colleagues (1997) did in a series of four studies.

The first study focused on White’s attitudes towards ethnic minorities in the U.S., and the second one on attitudes from different minority groups (Asian Americans, African American and Latinos) towards Whites. Indirect contact was a significant predictor of attitudes towards the out-group after controlling for direct friendship and other variables such as general dispositional prejudice or friendliness, and the effect was equivalent in majority and minority members. Furthermore, these studies showed that the perceived friendship between the ingroup and outgroup members, how close they were perceived to be, also predicted attitudes towards the out-group in the expected direction. The third study used an intergroup conflict produced in the laboratory with a similar methodology to the Robbers Cave experiment (Sherif et al., 1961), and measured attitudes both before and after an intervention where one participant from each group participated

in friendship building activities. As expected, after participants knew of the friendships that were formed in these activities their attitudes towards the other group consistently improved. Finally, a fourth study provided further experimental evidence for the effect using a minimal group paradigm (Tajfel et al., 1971). Following the same rationale as in the previous study, participants observed an interaction between an out-group member and a fellow ingroup member (this time using confederates), that was either negative, neutral or positive. Participants' attitudes improved when the observed interaction was positive, decreased in the neutral condition, and were most negative when they observed hostility.

This indirect contact effect has now been replicated in several studies comprising different intergroup settings and methodologies (Cameron et al., 2006; Liebkind & McAlister, 1999; Paolini, Hewstone & Cairns., 2007; Paolini et al., 2004; Pettigrew et al., 2007; Turner et al., 2007b, 2008). Cameron et al.'s, (2006) research is of particular interest because they developed a successful implementation of the extended contact effect on a school intervention to improve attitudes, and they further tested three different strategies based on the decategorisation, common ingroup and dual identity strategies of intergroup contact. This six-week long intervention focused on improving English children's attitudes towards refugees by reading stories that described ingroup members having a close friendship with outgroup members, and generating group discussions of the stories. Though the stories were similar in all experimental conditions, they varied according to the different strategies that were tested. In the decategorisation condition the stories and discussion emphasised individual preferences and qualities of the characters, the common ingroup condition emphasised the school as a common category to which both the ingroup and outgroup characters belonged, and the dual identity condition emphasised both the school membership and the subgroup memberships (English and refugee). The results of the intervention provided strong support for the extended contact hypothesis: all experimental conditions improved the attitudes towards refugees compared to the control condition. Interestingly, the most successful strategy was the dual identity condition, arguably because it is the only one that enhanced subgroup categories and thus allowed children to generalise from the stories.

When Wright et al. (1997) introduced the extended contact hypothesis, they proposed four different mechanisms that could explain this effect: ingroup and outgroup norms regarding intergroup contact, intergroup anxiety and IOS. The intervention by Cameron et al., (2006) was the first study to test for these mechanisms, and they found that IOS fully mediated the effect of the experimental conditions. The behaviour of fellow ingroup members may also be particularly important in establishing norms regarding the kind of interactions that members

of the ingroup are expected to have with members of the outgroup. Knowing of a fellow ingroup member who has positive contact with members of another group provides a positive ingroup exemplar, that in certain circumstances -when group memberships are salient and relevant to the self- would be imitated and eventually generate a change in the image of the ingroup, and more specifically, in the perception of ingroup norms regarding intergroup contact. In their own words: "... members of the relevant ingroup can provide information about how group members understand the situation and how a group member should respond" (Wright et al., 1997, p. 75).

Pettigrew et al. (2007) provided preliminary evidence regarding the contention that the intergroup contact of other ingroup members affects the perception of ingroup norms about such interactions. Using a large probability sample of German adults, they measured direct and indirect cross-group friendship, attitudes towards foreigners, and other social location and personality predictors. Following the same argument that Pettigrew had previously proposed (1958), the authors argued not only that indirect intergroup contact should affect the perception of social norms, but also that both direct and indirect intergroup contact should be understood from a normative perspective, and thus that social location variables should be a relevant predictor of both. Even though they were able only to measure ingroup norms in a rather indirect way and using only one item ("How many of your friends and close acquaintances favour the immigration of foreigners?"), they found it to be strongly correlated with the amount of indirect friends. Furthermore, social location variables such as the amount of foreigners in the neighbourhood and in the workplace, as well as age, gender, education and authoritarianism, were significant predictors of both direct and indirect friendship.

Turner et al. (2008) provided the first simultaneous test of the four mediators originally proposed to explain the effect of indirect contact. Two correlational studies recorded the attitudes towards Asians by native English university students (in Study 1) and adolescents (in Study 2), as well as their reported levels of direct and indirect cross-group friendship, intergroup anxiety, inclusion of the outgroup in the self and their perception of ingroup and outgroup norms regarding cross-group interactions between English people and Asians. Indirect cross-group friendship was found to have a strong effect on attitudes in both studies, either equal or stronger than its direct counterpart, and all four mechanisms proposed by Wright et al. (1997) were found to mediate the effect of indirect contact. Ingroup norms regarding contact was measured by asking participants about how friendly their White friends are to Asian people, whether their White friends would be happy to go out with/date someone who is Asian and how much White people like Asian people in general. This measure was strongly associated with attitudes

in both studies.

1.6 Intergroup contact in the wild

1.6.1 Criticism of the contact hypothesis

In spite of the considerable amount of evidence provided by social-psychological studies in favour of the contact hypothesis, the idea still remains somewhat controversial, especially in other disciplines and in policy discussions. Part of this disagreement comes from findings that show that intergroup contact and prejudice tend to co-exist at an aggregate level of analysis (countries, cities, neighbourhoods, etc.), and this particular issue merits some attention given that its especially relevant for the research program described in this thesis. I will focus here on Forbes' (1997, 2004) criticism, but other authors have raised similar concerns (e.g. Putnam, 2001).

Forbes (1997, 2004) is not alone in noting that proximity between groups and intergroup conflict are frequently found together. It will be recalled that findings along this lines were already known since early in the history of intergroup contact research. Williams (1964) provided a compelling documentation of this apparent contradiction in a study of race relations in the U.S. In general, he found that cities with a larger proportion of Blacks consistently showed a larger proportion of prejudiced White people, regardless of the fact that such cities reported more opportunity for contact and a larger percentage of Whites engaging in contact with Blacks. To make matters even more puzzling, individuals who engaged in cross-group contact showed *less* prejudice in each of the cities. Many other studies have found similar results (see Forbes, 1997).

Based on this information, Forbes argued that contact researchers, by focusing only on the individual level of analysis, have ignored the negative consequences of intergroup contact at an aggregate level. It is important to note, as does Forbes, that the traditional view of necessary conditions proposed by Allport (1954) does not fit well with these data. It may well be possible that in the cities that show a larger proportion of minorities and more intergroup conflict the situational conditions are not ideal for intergroup contact, but the fact remains that those individuals who engage in contact do report more tolerant attitudes nonetheless.

Forbes (1997, 2004) advances a potential explanation for the opposite effects of intergroup contact at the individual and aggregate levels. He postulates that even though the individuals who engage in contact will have better attitudes, the ones who don't will actually *increase* their levels of ethnocentrism. According to this viewpoint contact implies a process of assimilation between two groups,

and group members will tend to resist such a process. In the end, the benefits obtained through intergroup contact are overwhelmed by the detrimental effect on the individuals who do not engage in contact and feel threatened by the process. Furthermore, he argues that resisting intergroup contact is in the interest of each social group:

"Each group will want to stiffen the resistance of its own members to assimilation, because each 'defection' adds to the pressure on the remaining 'loyalists' to defect. Conversely, the stiffer the group's resistance, the better the chances that it will succeed in making the other group bear the costs of assimilation." (Forbes, 2004, p.80).

Based on this, Forbes concludes that intergroup contact has different effects at the individual and aggregate levels, and more importantly, that since the aggregate outcome of intergroup contact is detrimental, it has little value as an intervention to reduce intergroup conflict.

"... the model I have outlined suggests that we should reduce contact, not increase it in the hope of breaking more stereotypes. When thinking about the larger problem of intergroup relations, it suggests, we should not let ourselves be distracted by whatever good effects of personal contact (and assimilation) we see at the individual level." (Forbes, 2004, p.82-83).

Needless to say, I think such a conclusion is unwarranted, and the recommendation to reduce intergroup contact is premature to say the least. The main problem with this model, and a problem that is shared by other criticisms of the contact hypothesis from sociologists and political scientists, is that it considers the mere presence of another group as equivalent to intergroup contact. Even though a larger proportion of outgroup members does increase the opportunity to experience intergroup contact, it does not guarantee that such contact will occur: the association between more contact and worse attitudes at aggregate levels is not about contact, but about the proportion of outgroup members.

A city with a large proportion of outgroup members can indeed be highly segregated, and this state is rather common in many cities. Despite the considerable amount of ethnic diversity in the U.K., for example, segregation in several aspects of everyday life is still prevalent. A report that focused on the north-west of England described the situation as one of "parallel lives", in which segregation was evident not only because of physical boundaries, but also on social and cultural habits (Cantle Report, 2001). Most likely, scenarios like these will engender worse

intergroup relations compared to a city in which the proportion of outgroup members is low enough to be almost irrelevant. People in such a context would frequently see outgroup members, but no interaction between ingroup and outgroup members. As Williams (1964) noted in the title of his report, the situation is that of strangers living next door. The positive correlation that is sometimes found between proportion of minorities and intergroup conflict does not imply that intergroup contact is having a detrimental effect on intergroup relations, because a larger proportion does not guarantee that people will engage in contact in the first place. Furthermore, a larger proportion of minorities makes the lack of contact all the more salient, and could have a considerable effect in the perception of social norms regarding the desirability of such contact. On the same line, there is some evidence showing that when the proportion of minorities increases, so does threat (Blalock, 1967; Stein, Post & Rinden, 2000). But again this effect is due to the increased presence of the outgroup, not intergroup contact. On the contrary, there is considerable evidence showing that both direct and indirect intergroup contact reduce the feelings of threat (Wagner et al., 2006; Pettigrew et al., 2007).

1.6.2 The micro-ecology of intergroup contact

With some notable exceptions, such as Sherif and colleagues summer camp experiment (1961), Wilner et al.'s study of interracial segregation (1952), and Minard's Pocahontas coal field studies (1952), most research on intergroup contact has been based either on survey studies or laboratory manipulations and, most importantly, focusing on the analysis of the consequences of intergroup contact at the individual level. There has been comparatively less research on understanding how intergroup contact comes about in the first place, as well as the group processes that are involved.

One of the most important challenges in this context is how to overcome the phenomena of "parallel lives" described earlier, and in order to do so we need a better understanding of informal segregation in everyday life. Several studies have documented such processes of segregation with some detail. Schofield and Sagar (1977) studied a racially integrated school in the U.S. was funded on ideas very similar to Allport's conditions for successful intergroup contact; particularly focusing on cooperation and in providing authority support for integration. By observing seating arrangements in the school dining area, they found that mixing across ethnic boundaries was limited, and students tended to re-segregate during informal interactions. A more recent study by Clack, Dixon and Tredoux (2005) focused on seating arrangements on a university cafeteria in the U.K. In the university where the study was conducted, 17% of students belonged to some ethnic

minority. The results of the study were very similar to those of Schofield and Sagar (1977). Within the cafeteria, people tended to sit in smaller groups where most of the interactions occurred. Even though the cafeteria was desegregated in the sense that it was shared by different ethnic groups, the observation of seating arrangements and smaller social units of people interacting together revealed considerable levels of informal segregation. Ninety percent of the observations of the ethnic composition of these social units showed less integration than what would be expected by random mixing. Furthermore, Clack et al. (2005) also noted that this segregation was characterised by a pattern of social clustering: most Asians tended to cluster around one specific section of the cafeteria.

The reasons for this process are far from being completely understood, but it is worth noting that it can hardly be explained by an analysis of individual preferences and dispositions regarding ethnic groups. "Rather, this pattern seems to require acknowledgement of the *sui generis* role of intergroup perceptions and practices in shaping the organisation of social space" (Clack et al., 2005, p. 14). Individuals are affected by the previous configuration when they enter the cafeteria, and the pattern can be described as an emergent property that arises from the individual tendencies to follow particular social rules. Another study by Dixon and Durrheim (2003) underlines the importance of time as another level of complexity on top of the spatial arrangement of segregation. The study documented the patterns of interracial contact in a desegregated beach in South Africa, and once again, even though the beach reflected the expected general ethnic composition there was considerable segregation in more intimate spaces. People not only clustered in ethnically homogeneous "umbrella spaces", but also had different timings to attend the beach so that inter-ethnic contact was minimised. Less than 3% of the observed interactions were cross-group interactions.

These observations, as well as research on the extended contact hypothesis, underline the importance of the intragroup processes related to intergroup contact. Individual attitudes and behaviours seem to be affected by the behaviour of other ingroup members, and more generally the context of intergroup interactions that goes on around them. Even though there have been continuous calls for an understanding of intergroup contact from a more normative perspective (e.g. Pettigrew, 1991, 2008), the methodological difficulties of integrating these two areas of study have probably discouraged researchers. One of the most important contributions of the extended contact hypothesis is that it provides a way to integrate the behaviour of other ingroup members into the traditional methodology that has been so successful for intergroup contact research. In the next chapter, I will examine research regarding the influence of social norms on intergroup relations, and in particular the importance of the perception of norms about engaging in

cross-group interactions.

Chapter 2

Ingroup norms about contact with the outgroup

2.1 Social norms in social psychology.

The importance of social norms and conformity is well established in social psychology. Sherif's (1936) classical experiment using the autokinetic effect showed that individuals tend to converge in their interpretations of a perceptually ambiguous situation, and Asch (1951) further showed that the influence of others could be observed even when the task has an otherwise unequivocal correct answer. It would be reasonable to argue that such influence would only be strong on behaviours that are not particularly relevant to individuals, such as estimating the lengths of different lines, and that people will follow their own personal convictions when it really matters. As it turns out, this is not the case. Milgram's (1963) study demonstrated that an alarmingly high proportion of regular people (65%) obeyed an authority figure in administering arguably fatal electric shocks (450 volts, marked XXX) to another human being. This percentage went up to 72% when two confederates acting as obedient participants were introduced in the design, and dropped to 10% when the confederates refuse to continue. Today, concepts like conformity, social norms, peer pressure and social influence enjoy a useful and well deserved place in the study of a wide array of behaviours, such as school dropout (e.g. Hymel et al., 1996), use of alcohol, cigarettes and marijuana (e.g. Hansen & Graham, 1991), charity donations (e.g. Carman, 2003) and even tax evasion (e.g. Roth, Scholz & Witte, 1989).

An important theoretical refinement since the first formulations of normative accounts was proposed by Cialdini, Reno, and Kallgren (1990), when they introduced their *Focus theory of normative conduct*, which resurrected the distinction between descriptive and injunctive norms –noting that they can have incompat-

ible influences on behaviour– and underlined the role of norm salience. Descriptive norms are defined by what people *actually do*, while injunctive norms refer to what people believe they *ought to do*.

In a series of naturalistic studies, Cialdini and colleagues (1990) replicated the common finding that people tend to litter more in an already littered environment than in a clean environment (e.g. Reiter & Samuel, 1980), but adding an interesting caveat. Following the idea that the influence of norms is greater when people focus their attention on them (i.e. when the norm is salient), Cialdini and colleagues proposed the unintuitive hypothesis that the relation between litter in the environment and littering behaviour would have a check-mark form. Little littering would occur in a clean environment (a clear descriptive norm) and more littering in an already littered setting; but the least littering would occur in an environment where a single piece of littering was present, because it would focus participants' attention on the descriptive norm. The results supported this idea, and provided good support for a normative interpretation as opposed to a *mere imitation* effect. The role of norm salience as a moderator of normative influence also received support when injunctive norms were used. In this study participants received a leaflet with messages that were more or less related to the injunctive norm against littering, thus manipulating the salience of this norm. As expected, they found a linear relation between participants' behaviour and the leaflet's semantic similarity with the injunctive norms against littering.

Another influential model for normative accounts of human behaviour comes from the theory of planned behaviour proposed by Ajzen (1991). In predicting intention, and subsequent behaviour, Ajzen proposed that attitudes, perceived behavioural control and subjective norms would be most relevant. In relation to social norms, the main contribution in this account is that it promoted the actual *measurement* of subjective norms. Something that was conspicuously absent in previous research, and that severely limited the usefulness of normative theories; when norms are measured only by behaviour there is a great risk for underspecified or circular explanations. In contrast, the theory of planned behaviour has provided a simple model to predict human action and a useful template to structure research on widely different topics.

2.2 Social norms in intergroup relations

The relevance of social norms in the study of intergroup relations has a more convoluted history, and the focus on normative accounts has been frequently abandoned and resurrected since the first formulation of a group norm theory of intergroup relations (Sherif & Sherif, 1953).

The *Group Norm Theory* (Sherif & Sherif, 1953) argues that ideology, attitudes and beliefs are not a product of individual experiences but rather a product of group membership. The group pressures the individual to conform by threatening both blatant (e.g. legal action) and more subtle (e.g. embarrassment, isolation) social punishments, and the conflict is eventually resolved with the internalisation of these norms. Thus, being a good group member involves adopting the prejudices held by the group and eliminating the prejudices that the group proscribes. These norms act as standards for the individual even when no social pressure is apparent.

Increasingly with age comes an awareness of one's own group and other groups and their relative positions in the existing scheme of social relationships. It is no coincidence that this increasing awareness and increasingly consistent manifestation of a scale of prejudice occurs during the stage when the child is beginning to participate actively in group activities –that is, when he can psychologically become a member of a group– [...] [prejudices] become so much a part of himself –of his ego– that the individual usually becomes unaware of their derivations but considers them his own. (Sherif, 1948, p.66)

Early research supported this view. Pettigrew showed that prejudice in South Africa and in the south of the U.S. (1958; 1959) was better explained by conformity to prevalent social norms than by authoritarian personality. Social conformity, measured by items such as “Is better to go along with the crowd than to be a martyr” and “A good group member should agree with the other members”, was a strong predictor of intergroup attitudes. As we saw in Chapter 1, Minard (1952) had also documented the astonishing ease with which people adapt their behaviour to different social norms. White and Black miners were friendly and cooperative with each other when working underground, but quickly resume segregation and racism when they returned from work to a social reality marked by the lack of contact by these groups.

A recent study by Bennett et al. (2004) gives indirect but powerful support for the idea that prejudiced attitudes are the product of socialisation. The aim of this study was to differentiate outgroup derogation and ingroup preference in the attitudes of six-year-old children, measures that had been frequently confounded in previous research. The study included samples from five different countries and measured attitudes towards the ingroup as well as the four different national outgroups.

It is surprising to see how well the attitudes of these six-year-olds correspond to the political and historical relations of their countries. British children had the

least positive attitudes towards Germany, and the children who identified more strongly with their British ingroup also had more negative attitudes towards Germans, but not towards Spanish, French or Italians. Azeri children were less likely to have positive attitudes toward Russia if they liked their ingroup: Russia supported an Armenian occupation of Azeri territory in 1992. And Georgian children who favoured their ingroup also showed more positive attitudes towards Americans, a country whose aid is widely advertised in Georgian media. Surely these children cannot know much about the socio-political reality of their home countries. As Bennett et al. argued, these attitudes probably come from their parents and their exposure to mass media.

The correspondence between attitudes towards different groups and the social norms regarding those attitudes was more clearly underlined by Crandall, Eshleman and O'Brien (2002). They measured the perceptions of social approval for having negative attitudes towards 105 social groups, and then recruited another sample from the same population to rate their attitudes towards these groups. There was a virtually perfect correspondence between the social approval of showing negative attitudes towards the groups and the actual attitudes reported by the second sample: the correlation between these two measures was $r = .96$. In subsequent studies they also showed that the acceptability of prejudice was strongly correlated with discrimination in different settings, and that an internal motivation to suppress prejudice increased over time, along with identification with the college, suggesting that students adapt over time to the norms of this new ingroup. It should be noted, however, that because of the correlational nature of Crandall and colleague's studies the relation between norms and attitudes may well be also capturing the opposite effect; that is, that people assume ingroup norms to be similar to their own opinions (see Ross, 1977a).

Even though there is a general consensus in social psychology in supporting these ideas, research and theoretical developments regarding the influence of social norms in prejudice has been relatively scarce. The Group Norm Theory of attitudes was criticised from early on for denying the role of individuals and their personal experiences in the development of their own attitudes. Allport expressed this view in a compelling way:

There is something unnecessarily "collectivistic" about the theory. Prejudice is by no means exclusively a mass phenomenon. Let the reader ask himself whether his own social attitudes do in fact conform closely to those of his family, social class, occupational group, or church associates. Perhaps the answer is yes; but more likely the reader may reply that the prevailing prejudices of his various reference groups are so contradictory that he cannot, and does not, "share" them

all. (Allport, 1954, p.38)

Given Allport's influence in the study of prejudice and intergroup relations, it is not surprising that this argument still represents the dominant view in the field. A benign acceptance of the general idea that norms play an important role on intergroup attitudes and behaviour, and a research program that focuses mainly on individual phenomena. Most certainly, the strong argument that attitudes are purely the result of internalised group norms is untenable. For example, research on social categorisation has shown that there are cognitive mechanisms that can account, at least partly, for intergroup attitudes; and research on intergroup contact underlines the importance of personal experience with outgroup members in shaping attitudes towards that outgroup.

But we do not need to deny these individual processes in order to insist that group norms have an important place in the understanding of intergroup relations, and furthermore that the interrelations between individual, intra-group and inter-group phenomena should be an important focus of research on intergroup relations.

In order to do this, several shortcomings and difficulties with the social norms approach need to be addressed. Pettigrew (1991) describes four problems with this approach: 1) Circular reasoning, behaviour is explained by norms and norms are "proven" to exist by behaviour; 2) Normative explanations require comparative evidence from groups with different norms; 3) Too often normative analyses fail to explain the development of the proposed norms; 4) Often the differential power of a (sub)group to set and defend the dominant norms is overlooked. Of course, none of these problems are inevitable, as Pettigrew is quick to note. They simply reflect typical issues with the research and theorising done so far. And indeed it is easy to reformulate these problems as a research program.

The first of the difficulties mentioned, that of circular reasoning, can be resolved by measuring social norms. And research framed by the theory of planned behaviour has done precisely that with the concept of subjective norms, measuring the individual's perception of the approval or disapproval of a particular behaviour.

Comparative research is one way to approach the problem that arises from the expected correspondence between social norms and attitudes. In order to show that social norms are influencing some particular behaviour, it would be appropriate to present an alternative situation where the social norms are different. But comparative studies are not the only way to do this, both change of norms over time and differences in the individual perception of social norms (that likely arise because individuals have different social networks) can serve this purpose too.

The third difficulty is simply a very interesting and relevant research question. Where do these norms come from in the first place? There is certainly a place for a

top down approach to this issue, and this influence is the one that has been studied most often. Mass media, leaders, and dominant groups are likely to influence the attitudes, beliefs and ideologies of the rest of the group, and can be a powerful source of change when designing interventions. But a bottom-up process is also evident (mass media and politicians would argue that they are merely following the public opinion) and research on this issue has been rare. Because individuals infer social norms from actual behaviour, the behaviour of the group can be self-organising.

The fourth of the problems listed by Pettigrew refers to the differential power of sub-groups to influence other people. Particularly with large groups, such as organisations or countries, it is evident that different sub-groups have different power to influence the rest. The role of leadership and reference groups is fundamental in this respect. But belonging to a large group does not guarantee acceptance or even exposure to the prevalent social norms. For example, a member of the British National Party will probably perceive British social norms to be quite different to the tolerant and egalitarian values that most British people would describe. In a very real sense, their national ingroup is not the same: people can choose their friends and the television channels that they want to watch.

2.2.1 Social norms about expressing prejudice

When blatant measures of prejudice started to show a steady decline on negative attitudes, social psychologists were suspicious of the trend, and pointed out that since discrimination was still prevalent, this reduction was most likely due to adherence to social norms that proscribed an open expression of prejudice. Research focused on developing new ways to measure intergroup attitudes (Modern Racism, Subtle Prejudice, Aversive Racism and more recently Implicit Attitudes), and although the belief that social norms were responsible for this change was strong, the theoretical account of this process remained rather fuzzy and did not prompt much research.

But work on social norms in the context of intergroup attitudes has been gathering momentum in the last few decades, with a particular focus on norms regarding the expression of prejudiced attitudes. As described above (on page 39), the study by Crandall et al. (2002) already shows a strong relation between the social norms regarding prejudice expression and the levels of prejudice reported for different groups. But several other studies provide support to this idea using experimental methodologies, thus making the claim for a causal effect of norms on attitudes more robust.

Using a paradigm reminiscent of Asch's experiments, several studies showed

that overhearing the attitudes of a confederate about expressing prejudice does have an effect on participants (Blanchard et al., 1994; Blanchard, Lilly & Vaughn, 1991; Monteith, Deneen & Tooman, 1996). Blanchard et al. (1994) exposed White undergraduate women from several campuses to a confederate that either condemned racism, condoned racism, or gave no information about her opinions. Participants' views regarding racism towards Blacks were highly influenced by this manipulation, with both experimental conditions differing significantly from the control in the expected direction. This influence was apparent when participants responded orally in front of the experimenter and the confederate, but also when they responded privately in an anonymous questionnaire that was deposited in a sealed envelope, albeit with a slightly weaker effect. Interestingly, this social influence was not affected by the race of the confederate, though several other studies have found this effect (for example Wilder, 1990). Monteith et al. (1996) found similar results using the same paradigm with attitudes towards Gay Men (in Study 1), though only the effect of a confederate condemning homophobic attitudes was significantly different from the control condition. Also, this social influence was not moderated by previous attitudes. That is, people with higher levels of prejudice were equally affected by the manipulation.

Stangor, Sechrist and Jost (2001) followed a rather different way to manipulate social norms. In the first experiment, they provided White participants with information that challenged their original estimation regarding stereotypes about Blacks that were prevalent in their university, either by providing more positive or more negative views than the participant had originally estimated. As expected, participants who received consensus feedback indicating that the consensus was more positive than they had believed reported more positive stereotypes in the post-intervention measure, while participants who received consensus feedback in a more negative direction reported more negative stereotypes. In experiment two, they added two important variables to the design: the source of influence (either the ingroup or the outgroup) and the time in which the views of participants were assessed, either immediately after the feedback or in an unrelated session a week later. As expected, participants were more affected by ingroup information than by outgroup information, which is consistent with the idea that the feedback changed the beliefs of participants because it changed the perception regarding the views of a group with which they identify. In addition, the effect of this manipulation was generalised to the unrelated session, also evidencing a change in prejudice levels. This supports the idea that the changed produced was indeed a relatively long term change in beliefs. Finally, when participants received feedback that was consistent with their original estimations (in Study 3), their attitudes were held more strongly and were more resistant to change.

Similar effects have been observed with children, suggesting that people are aware of social norms about expressing prejudice and are externally motivated to comply with them since childhood. Rutland and colleagues (2005) observed that the expression of ingroup bias towards ethnic minorities in young children was affected by the salience of self-presentation concerns (a camera allegedly recording their responses). While the studies described above directly manipulated social norms, this study rather manipulates the salience and relevance of this norms in the experimental situation, benefiting from the fact that there is a clear social norm against the blatant expression of prejudice towards ethnic minorities. Only children younger than 10 years old showed less ingroup bias when exposed to this manipulation, suggesting that younger children are externally motivated to reduce their expression of ingroup bias towards ethnic minorities, while older children have already internalised the norm. Interestingly, a second study measuring attitudes towards German nationals (contrasted with the British ingroup) found the opposite effect: young children actually showed *more* ingroup bias in the condition of high public self-focus. This is consistent with the idea that the norms against expressing negative attitudes towards national outgroups are less strong and that children perceive an intergroup rivalry between Britain and Germany, and are consistent with this perception when self-presentation issues are salient (see Abrams, Rutland & Cameron, 2003).

In another study, Nesdale et al. (2005) exposed 7 and 9 years old children to different opinions of the ingroup about the outgroup. Children in the inclusion norm condition were told that their team members liked the children in other teams, even if they are different, and like to work with the other team so that everyone does well. In contrast, the exclusion norm condition stated that the ingroup did not like children in other teams, and likes to stick together in order to do better than other teams. As expected, children in the inclusion norm condition showed no bias in their liking of children belonging to other teams, while the children in the exclusion norm condition liked members of other teams less, and showed unambiguous dislike when the other teams threatened the ingroup.

The study by Nesdale et al. (2005) included not only a norm about liking or disliking outgroup members, but also information about the views of the ingroup regarding contact with outgroup members: “they like to work with children in other teams”. It is to these norms about intergroup contact that we now turn our attention.

2.2.2 Social norms about intergroup contact

There are several reasons that make the study about social norms regarding intergroup contact particularly relevant. Historically, there are several examples where different ethnic or religious groups have had clear boundaries regarding segregation, both in geographical terms and in the amount and type of contact that members of one group are allowed to have with members of the other. Two notable examples are the *Apartheid* legal system of racial segregation enacted in South Africa between 1948 and 1994, that officially categorised people into Whites, Blacks, Coloured and Indian and enforced residential segregation by forced removals; and the so called *Jim Crow laws*, that dictated separation between Blacks and Whites in public transportation, restrooms, restaurants, public schools, housing, and public places in the US between 1876 and 1965.

Even though relatively few places where segregation is legally enforced remain, the lack of integration between different groups is still prevalent. According to a report by the Home Office, racial and cultural segregation are still ubiquitous in Britain's daily lives: "Separate educational arrangements, community and voluntary bodies, employment, places of worship, language, social and cultural networks, means that many communities operate on the basis of a series of parallel lives" (Cantle, 2001, p.9). Indeed, sociologists have reliably found that there is a clear tendency for *homophily* in social networks, where people tend to know and interact with other people from similar backgrounds and particularly with others of the same race, ethnicity or religion. When cross-group ties do form, they tend to dissolve sooner (McPherson et al., 2001). Such segregation has palpable consequences for people belonging to minorities or lower status groups, undermining equal opportunities and upward mobility in social status, as well as providing a setting in which fear and prejudice towards other groups can easily grow.

It seems very likely that social norms regarding contact between different groups have a large role in explaining such segregation, and could be a powerful intervention tool. Furthermore, it is also likely that these informal norms are perpetuated precisely because people can frequently observe indications of this segregation in their everyday lives. As observed in the study by Minard (1952), people do not necessarily follow their own private preferences when deciding to have or not to have contact with outgroup members. About 60% of Minard's participants showed a complete reversal of their behaviour when inside or outside the mines. Minard's study shows both that people tend to follow rather than rebel to social norms regarding intergroup contact and that these social norms can be changed, at least in specific settings.

The study by Wilner, Walkley and Cook (1952) speaks directly to this issue.

According to them, a great part of the positive effect of living in racially integrated projects was due to the prevalent social norms regarding interracial interactions:

“The process becomes even more clear when we take into account the perception of social climate with regard to interracial association. Of *all* the women, regardless of degree of physical proximity, those most likely to hold Negroes in high esteem were the ones who both engaged in extended street conversation or in neighborly associations with Negroes *and* perceived the social climate as favorable to interracial association. The proportion of such women was twice as great among those living near Negroes as among those living farther away.” (Wilner et al., 1952, pp. 68-69; emphasis in the original)

Some years later, Fendrich (1967) provided more clear evidence of a causal relation between social norms regarding contact and attitudes and behaviour, in a study with university students. Social support was measured using several reference groups (friends, roommates, people whom they admired) and the participants’ estimation of their behaviour. For example, if they would agree to “go to coffee or lunch with a mixed racial group”. Participants were asked at the end of the questionnaire if they would agree to participate in small group discussions regarding interracial interactions. Those who agreed were then formally invited to this meeting, thus allowing for a behavioural measure of intergroup contact; from the initial agreement to participate in the meetings to actually attending. The results of this study supported a model in which social support for cross-group interactions affected behaviour directly but also indirectly, by affecting attitudes towards the outgroup.

When discussing possible causes for intergroup anxiety, Stephan and Stephan (1985) considered social norms to be an important one. They argued that one of the reasons that people experience anxiety when interacting with outgroup members is the fear that other ingroup members would not approve of such contact. Thus, people would fear that they themselves could be subject of discrimination because of their association with members of the outgroup. Even though Turner et al. (2008) found a significant correlation between the perception of social norms about contact and intergroup anxiety, the causal relation between these two constructs remains unexplored.

Finally, as discussed in Chapter 1, the *extended contact effect* introduced by Wright et al. (1997) provides an adequate framework to study the normative influences on intergroup contact. There is already some evidence suggesting that ingroup norms are an important part of the process by which indirect intergroup contact can improve attitudes (Pettigrew et al., 2007; Turner et al., 2008), and

given the evidence outlined above, it seems very likely that ingroup norms have a strong influence in shaping intergroup attitudes as well as determining intergroup behaviours.

Even though social norms regarding the expression of prejudice has received more attention, social norms about contact seem to be more relevant in these times. As many scholars have noted, there are now widely accepted norms proscribing blatant expressions of prejudice and discrimination, and the challenges regarding intergroup relations in most developed countries involve a less manifest kind of discrimination, of which avoidance of contact is perhaps the pivotal example. The concept of *aversive racism* (Dovidio & Gaertner, 2004; Gaertner & Dovidio, 1986) encapsulates this idea in a clear way: “Aversive racists, in contrast to old-fashioned racists, endorse fair and just treatment of all groups, but they unconsciously harbour feelings of uneasiness toward Blacks, and thus try to avoid interracial interaction” (Gaertner & Dovidio, 2005, p.619). Such configuration does have clear social consequences, such as discrimination in personnel selection (Dovidio & Gaertner, 2000), college admissions (Hodson et al., 2002), and in the justice system (Hodson et al., 2005).

A normative approach to intergroup contact also opens the possibility of mass media interventions that focus on changing the perception of ingroup norms, which would be able to influence both intergroup attitudes and behavioural patterns of cross-group interaction. And there is already evidence for the plausibility of such an intervention in a very challenging setting, that of the relations between Tutsis and Hutus in Rwanda (Paluck, 2009a). During the 1990’s, in a period of economic depression and political turmoil, a Hutu power group known as the Akazu directed mass killings of Tutsis (as well as pro-peace Hutus). Today, the relations between the two groups are marked by intense mutual distrust, as survivors, returned refugees and accused killers live in close proximity.

In this context, Paluck evaluated a year-long intervention using a radio programme that presented relations between two fictional groups with clear allusions to the reality of Hutus and Tutsis in Rwanda (using the actual ethnic groups would not be allowed). The soap-opera, called *New Dawn*, was specifically designed to address the distrust between these communities. It included some relatively explicit educational messages, such as the belief that “(psychological) *trauma is not madness*” and can be treated; as well as a depiction of positive social norms, presenting some characters that cross community lines, openly communicate with members of the other group and speak out against people who promote violence. In order to evaluate the effect of this intervention, participants were randomly assigned to listen either to *New Dawn* or to a radio programme about health issues. The episodes were listened in small groups (people in Rwanda tend to listen

to radio programmes together) and were followed by a short discussion, which arguably also had some influence in the perception of social norms.

The results of the intervention were encouraging. Compared to the control condition, participants that listened to *New Dawn* were more likely to believe that trauma recovery is possible and to report empathy to other Rwandans. But most of the influence of the radio programme was on the perception of social norms; particularly regarding trust, open dissent, talking about trauma experiences and cross-group marriage. Furthermore, Paluck was able to include a behavioural measure of cooperation because the groups were offered a radio equipment for their participation, and therefore had to decide how to manage this collective resource in the future. The control group usually had little deliberation, choosing to trust the equipment to the communal authorities. The *New Dawn* groups, on the other hand, engaged in longer deliberations, frequently commenting on their ability to cooperate on this to manage the equipment themselves. This effect was observed regardless of the ethnic composition of the groups.

Even though there was some controversy regarding the items that were used to measure social norms (Paluck, 2009b; Staub & Pearlman, 2009), the results related to social norms about intergroup contact are more clear. The difference in the perceptions of intermarriage norms were not obtained from the questionnaire (that used items in first person to measure social norms), but from focus groups: participants in the experimental condition were more likely to support cross-group marriage, even though groups did not differ in their perception that such relationships can help to bring about peace. The reasons given by participants for a positive effect of cross-group marriage were also different, *New Dawn* participants frequently expressed that these relationships set an example, or provide new social norms, for the rest of the community. For example,

“Sometimes the two fiancés overcome the hate, even when the parents have not. But then the [marriage] ceremonies come, and they bring a change of perspective, for all those who have been invited to come and see them unify... the guests see, and are inspired to reconcile with one another.” (Paluck, 2009a, p.581)

2.3 Identification, typicality and sub-typing

Individuals may sometimes follow social norms about intergroup relations simply by compliance, and only when they can be held accountable by their behaviour, because people want to avoid the anticipated social sanctions of acting against such norms. But social norms can eventually be internalised, generating a real

change in private attitudes and behaviours that is integrated into the personal values of the individual. In between these two mechanisms, lies the role of identification, in which the adherence to social norms is given to establish or maintain a self-defining relation between the person and some group. In this case, as opposed to internalisation, the normative content is not particularly relevant, and the influence of social norms should only be observed when the group membership is made salient (Kelman, 1958, 1961).

The development of *Social Identity Theory* by Tajfel and Turner (1986) provided a clearer way to understand the relationship between individuals and the groups they belong to, noting that identity is composed of both personal and social components. Thus, individuals are motivated to make favourable comparisons between their ingroup and other relevant outgroups (see Brown, 2000, for a review). In situations in which intergroup relations are made salient, social identity motives can overtake the influence of more personal values. *Self Categorisation Theory* (Hogg & Abrams, 1988; Turner, 1984), further proposed that social influence could be understood in terms of the connection between the ingroup and the self, which is motivated to adhere to the ingroup's prototype. In this view, internalisation of normative attitudes and behaviours occurs precisely *because* of the identification with the ingroup, which indeed can be described as inclusion of the ingroup in the self (Tropp & Wright, 2001). In line with this conceptualisation, some studies have showed that the effect of social norms is stronger when participants identify strongly with the ingroup (Abrams et al., 1998; White et al., 2008) and that the relationship between attitudes and behaviour is stronger when social norms are congruent with such behaviour (Terry et al., 2000).

Thus, when individuals observe fellow ingroup members having friendly relations with members of the outgroup they would change their perception of the relation between the ingroup and the outgroup as a whole, effectively bringing the outgroup closer to the self. Yet the role of identification with the ingroup in the influence of social norms brings about an important challenge to take into account when considering influence of the observed behaviour of other ingroup members. For such behaviour to be influential, both the ingroup and outgroup members should be considered to be representative of their respective groups. Sub-typing of outgroup members was noted to be a possibility in intergroup contact early, and the moderating role of group membership salience on intergroup interactions has been well documented (Brown & Hewstone, 2005; Brown et al., 1999). In the case of indirect contact, or any behaviour of other ingroup members in an intergroup situation, the situation is further complicated by the possibility of sub-typing the ingroup member, thus undermining the influence of the observed behaviour in changing the perception of ingroup norms. Wright et al. (1997) were aware

of this difficulty, and so predicted that indirect contact would only be effective in situations in which ingroup norms regarding contact are relatively ambiguous. If norms against contact are too strong, ingroup members would be sub-typed just because of their counter-normative behaviour. For this reason, it is likely that typicality and group salience of both ingroup and outgroup members will moderate the effect of indirect contact. As Wright and colleagues also noted, subtyping of ingroup members becomes increasingly difficult as people become aware of more ingroup members who are having close relationships with outgroup members.

2.4 The model proposed in this thesis

Research on intergroup contact has mainly focus on the intra-individual processes that occur when people have positive interactions with members of an outgroup. This individual focus is probably responsible for several issues that have had a negative influence on the development of a more comprehensive understanding of intergroup relations, between different disciplines in the social sciences and in policy discussions. When intergroup contact is viewed from above, as a process of two large social groups that have to share a country, a city, or a cafeteria, the necessity of a normative perspective on intergroup contact becomes evident. A connection needs to be made between the individual psychological processes involved in intergroup contact and the reality of segregation and conflict between different social groups.

I believe that the extended contact hypothesis provides an excellent framework to develop such a connection between individual tendencies and the overall intergroup phenomenon of intergroup contact and segregation, but it runs the risk of being subdued to the individualistic framework that has characterised much of the recent research on intergroup contact. Indirect contact is not only an interesting way to change individual attitudes without actually interacting with outgroup members. It is an integral part of how intergroup relations work, and intergroup contact cannot be understood without taking into account the normative process that all individuals are subjected to when they observe the way the rest of the ingroup behaves towards the outgroup. If they observe segregation, they will assume that ingroup and the outgroup do not have a positive relationship, and that they should behave accordingly. If they observe positive and frequent interactions between ingroup and outgroup members, they will tend to feel and behave in a way consistent with these observations.

Thus, the model of intergroup contact that will be developed in this research project considers direct and indirect intergroup contact as two different influences that the more general process of intergroup contact has on individuals, and there-

fore their effects will be explained by different variables. Indirect contact, because it deals with the behaviour of the rest of the ingroup, will have a normative effect. That is, the number of ingroup members that are known or observed to have positive cross-group contact will change the perception of ingroup norms regarding the desirability of engaging in positive interactions with outgroup members. Personal experiences with outgroup members (i.e. direct contact) are not particularly informative of ingroup norms, and will influence attitudes by different mechanisms.

As discussed above, norms regarding intergroup interactions are likely to be especially relevant in shaping intergroup attitudes. Positive norms about contact imply a positive relation between the ingroup and the outgroup, and individual attitudes will tend to conform to that expectation. Furthermore, beyond their effect on intergroup attitudes, norms about contact should have a strong influence in the actual behaviour with outgroup members. People that perceive ingroup norms to support intergroup interactions will be more likely to have the intention to engage in those interactions in the first place, and to have more positive and fruitful interactions when they do. This effectively adds direct intergroup contact as a dependent variable, stressing the view of intergroup contact is a cycle that stretches over long periods of time, and that interventions may be able to influence this cycle in a direction that leads not only to better attitudes, but to reduced levels of segregation between the groups.

Chapter 3

Following ingroup friends, and following my classmates¹

The study presented in this chapter will provide a first approximation to the theoretical model just described, evaluating the role of ingroup norms regarding contact in the shaping of intergroup attitudes, and as a mechanism that can explain the effect of indirect intergroup contact. The study also includes a measure of intergroup anxiety, which is hypothesised to mediate the effects of both direct and indirect contact, and will serve as a challenging benchmark to evaluate the strength of the effect of ingroup norms on attitudes.

The measure of ingroup norms about intergroup contact that was used in this study differs from the one used by Turner et al. (2008) in that it focuses on injunctive norms (what other ingroup members approve of) rather than descriptive norms (what other ingroup members do; Cialdini, Kallgren & Reno, 1990). This emphasis on the perception of the social approval of having contact with the outgroup is consistent with much previous research and theorising. Stephan and Stephan (1985) argued that one of the possible antecedents of intergroup anxiety was indeed the fear of social sanctions by other ingroup members, an aspect that was also present in Wright et al.'s (1997) conceptualisation of ingroup norms. Wilner et al. (1952) also found that the perceived approval of interracial associations by other neighbours was related to the opportunity to observe actual contact between ingroup and outgroup members. The general idea is to capture how participants think relevant ingroup members would react if they were to engage in cross-group interactions. Because of this, the measure of norms will also focus on ingroup friends rather than the ingroup in general.

Besides using a traditional measure of indirect contact, this study will evalu-

¹The results of this study were published in De Tezanos-Pinto, P., Bratt, C., & Brown, R. (2009). What will the others think? In-group norms as a mediator of the effects of intergroup contact. *British Journal of Social Psychology*.

ate a multilevel model in which the influence of individual intergroup contact is contrasted with the influence of group-level intergroup contact: in this case, belonging to a classroom that reports more or less cross-group friends. Multilevel analyses are particularly well suited to study normative influences because they separate the individual effects of the variables studied from the group-level effect of these variables (Mehta & Neale, 2005; Pettigrew, 2006). In the case of intergroup contact, the effect of having one or more outgroup friends (individual level) may not be the whole story: belonging to a classroom in which many individuals have outgroup friends (group level) can have an effect on attitudes that is independent of the actual intergroup contact of each individual.

Thus, the main hypothesis of this study is that both direct contact and indirect contact (or the aggregate amount of contact in the classroom) have an effect on attitudes towards the outgroup, but they rely on different mechanisms to achieve this effect. In particular, direct contact will improve attitudes by reducing the levels of intergroup anxiety, while indirect contact will improve intergroup attitudes by affecting both the perception of ingroup norms about contact with the outgroup and by reducing intergroup anxiety.

3.1 Study 1: Attitudes towards ethnic minorities in Norway

3.1.1 Method

Participants

Eight hundred and twenty three ethnic Norwegian school students (51% Female; Mean Age: 13.8 years) from 89 classrooms voluntarily participated in the study. The study took place in the town of Drammen, Norway. This town has a considerable number of people that belong to ethnic minorities (18%, mainly Turkish and Pakistani, but also Indian and other minority groups), providing a suitable setting to explore the effects of cross-group friendship.

Procedure

Data collection was organised in close cooperation with the local authorities in the municipality of Drammen, and all the students from the town's six schools for grades 8 to 10 were invited to participate. A letter stating the objectives of the study was sent to the parents, and they were asked to give written consent regarding their son/daughter's participation. Students also received a letter stating the

objectives of the study, the voluntary nature of their participation and guarantying the anonymity of their responses.

Students used their own laptop, which are routinely provided by the schools, to answer the questionnaire using a web-based interface, and the application was overseen by the teachers of each class.

Measures

The questionnaire focused on three ethnic minorities that are salient in Drammen: Turkish, Pakistani and Indian².

Direct cross-group friendship ($\alpha = .90$) was measured for each of the ethnic minorities considered in the study, and for male and female targets separately. “How many boy (1) Turkish (2) Pakistani (3) Indian friends do you have?”; “How many girl (4) Turkish (5) Pakistani (6) Indian friends do you have?”. For each of the items, the scale ranged from 0 to “11 or more”. For the analyses, these six items were added to form a single indicator of the total number of outgroup friends.

Indirect cross-group friendship was measured with one item: “How many Norwegian friends do you have who have friends from another ethnicity?” Participants simply wrote the total number of indirect friends in the questionnaire.

Norms against contact ($\alpha = .68$) were measured using three items: (1) “I believe that friends in my ethnic group prefer that I am not together with youths from other ethnic groups”, (2) “I believe that friends in my ethnic group think it is a bit un-cool if I hang around with boys or girls from another ethnic group” and (3) “I believe that friends in my ethnic group think it is cool if I have a close friend from another ethnic group”, using a scale from 1 (Completely Disagree) to 7 (Completely Agree).

Intergroup Anxiety ($\alpha = .95$) was measured with the following headings: *If you were the only ethnic Norwegian working with a group of [Turkish/Pakistani/Indian], how would you feel?* Participants answered two items for each of these groups: (1) “Nervous” and (2) “Confident”, using a scale of 1 (Not at all) to 7 (Very Much). For the SEM analyses, two indicators were used by combining responses to the different targets for each of these two items (Nervous $\alpha = .95$; Confident $\alpha = .96$).

Intergroup Attitudes ($\alpha = .96$) were measured for each of the ethnic groups and for male and female targets separately: (1) Turkish boys, (2) Turkish girls, (3) Pakistani boys, (4) Pakistani girls, (5) Indian boys, (6) Indian girls. Participants responded by marking in a feeling thermometer how they felt towards each target, using a scale from 0 to 10. For the SEM analyses, responses for male and female

²All items reported here have been translated from the Norwegian, and the questionnaire also included other measures that are not relevant for this study.

targets were combined for each of the outgroups (Turkish $r = .82$; Pakistani $r = .87$; Indian $r = .87$).

3.1.2 A word on data analysis

This study used several data analysis procedures that will be used throughout this research project, so I wish to discuss them in some detail here. To test the hypothesised model I performed Structural Equation Modeling (SEM) analysis using Mplus (Muthén & Muthén, 2010). All the SEM models were run using Robust Maximum Likelihood (RML), which accounts for the non-normality of the data in the estimation of the model fit and the standard errors, and full information maximum likelihood (FIML) for missing data. As can be observed in Table 3.1, the proportion of missing data in this study was not irrelevant (between 2% for ingroup norms and 19% for indirect friendship).

FIML is the default treatment of missing data in Mplus, and is superior to traditional approaches such as listwise or pairwise deletion and mean imputation in that it does not assume that the missing data is unrelated to the variables included in the model (missing completely at random). While FIML does not impute values to the missing data, it does, as the name suggests, use all the available information to estimate the parameters in the model. Acock (2005) provides an excellent conceptual review of the issue of handling missing data in social psychological studies, and the importance of using modern estimation methods. In essence, ignoring the missing data is also a form of estimation, and one that can generate considerable bias in the results of the model unless the assumption of missing completely at random is correct, something that is very unlikely in psychological research (for more a more technical and comprehensive analysis, see Little & Rubin, 2002).

The analyses were performed using a partial disaggregation approach for intergroup anxiety and intergroup attitudes (Bagozzi & Heatherton, 1994; Little et al., 2002). Using parcels has both benefits and drawbacks. The benefits include having indicators that better approach normality and a continuous distribution, thus making the estimations of the parameters more stable; and the fact that there are less parameters to estimate, which is particularly useful when the models include relations between a relatively large amount of latent variables. The first of these benefits is also a drawback, in that it “artificially” improves the fit of the model. This is particularly detrimental if the focus of the study is psychometrical, but this is not the case in this study or in the research project developed in the thesis. The focus here is in the structural relations between the latent variables, and a poorly specified model will have a bad fit to the data with or without parcels.

Perhaps the most important and obvious drawback of using parcels is that it

assumes that the parcels are unifactorial. In this study, and in the ones to follow, I have evaluated this assumption before creating the parcels, using both reliability and factor analysis. In the measurement of attitudes and intergroup anxiety in the present study, the structure of the scales was unlikely to be unifactorial: both variables were measured separately for three minority groups, attitudes were measured for boys and girls separately, and intergroup anxiety had one positively worded and one negatively worded item. In each case, the items that were averaged to create the parcels are the ones that were most strongly correlated. For example, in the measurement of intergroup attitudes the items for boys and girls were more strongly correlated, and thus more clearly unifactorial, than the measures for the different outgroups; so three parcels were formed by averaging the items towards boys and girls in each outgroup.

When the items used to create the parcels do have a unifactorial structure, the procedure recommended by Little and colleagues (2002) was termed *item-to-construct* balance. The objective is to have parcels that are equally good indicators of the construct, and therefore the procedure involves performing a confirmatory factor analysis to evaluate the loadings of each item and then to compute the parcels based on these results: the highest loaded item is combined with the item that has the lowest loading. Though this procedure was not used in this study, it was used in most of the studies to follow.

In order to assess how well the SEM models fit the data, the traditional criteria proposed by Hu and Bentler (1999) will be used: a non-significant chi-square, CFI > .95, RMSEA < .06 and SRMR < .08. With large sample sizes, as in this study, even small differences between the estimated and observed covariance matrix can produce a significant chi-square. In these cases, a significant chi-square can be considered acceptable if it is less than double the degrees of freedom (Jöreskog, 1969). These criteria will be used throughout the thesis.

Finally, Mplus allows the decomposition of the effects in the model, which is especially relevant when testing mediational hypotheses. Even though the method that it is typically used for statistical tests of mediation in psychological research is the *causal steps approach* proposed by Baron & Kenny (1986), this not the best approach in most situations (see MacKinnon et al., 2002 for a comparison of different methods). Mplus uses the *delta method* to calculate the standard errors, and thus the statistical significance, of the indirect effects (Sobel, 1982); and allows for the evaluation of the indirect effects via different mediators in the same model. A significant indirect effect supports the hypothesis that the independent variable influences the outcome *via* its effect on the mediator(s).

Importantly, this approach does not require the total effect of the independent variable to be significant (as does the *causal steps approach*). In the case of partial

Table 3.1: Means, S.D. and correlations, Study 1

	N	Mean	S.D.	IF	NOR	IGA	ATT
Direct Friendship (DF)	695	4.2 (1.0)	8.2 (1.0)	.33 (.46)	-.11 (-.16)	-.20 (-.23)	.21 (.24)
Indirect Friendship (IF)	665	8.4 (1.6)	15.1 (1.1)	-	-.21 (-.31)	-.20 (-.30)	.16 (.30)
Norms against Contact (NOR)	806	2.9	1.3		-	.38	-.38
Intergroup Anxiety (IGA)	783	4.1	1.5			-	-.49
Attitudes (ATT)	747	4.6	2.8				-

Note: All correlations are significant ($p < .001$).

Values in parenthesis correspond to the log transformation of direct and indirect intergroup contact.

suppression, a variable may have a significant direct (or residual) effect in the opposite direction of the indirect effect, thus making the total effect not significant (see MacKinnon, Krull & Lockwood, 2000). The effects decomposition available in Mplus provides estimations of the total effect (TE), the direct or residual effect (DE), the total indirect effect considering all the mediators included (IE) and the specific indirect effects for each of the proposed mediators (SI). This approach will be used to evaluate the mediational hypotheses in all subsequent studies.³

3.1.3 Results

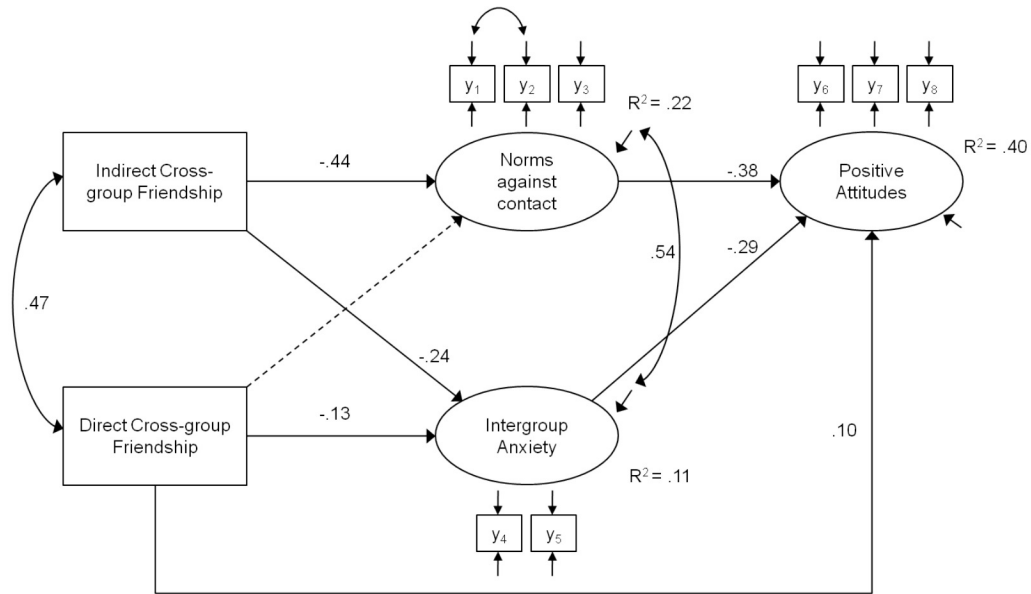
The means, standard deviations and the correlations between the variables of this study are presented in Table 3.1. Sixty one percent of the participants reported having at least one outgroup friend, and 83% reported having at least one indirect outgroup friend.

Both direct and indirect cross-group friendship were severely positively skewed ($Skew = 3.5$, $Kurt = 16.2$ for direct friendship; $Skew = 3.9$, $Kurt = 17.2$ for indirect friendship), so for the analysis I performed a log transformation of the scores. In addition to normalising the distribution of direct and indirect cross-group friendship ($Skew = 0.8$, $Kurt = -0.1$ for direct friendship; $Skew = 0.3$, $Kurt = -0.04$ for indirect friendship), this transformation increased the correlation between these variables and the other variables considered in this study. This is consistent with the idea that adding a new outgroup friend has a stronger effect when people have fewer cross-group friendships than when they already have several outgroup friends.

As can be observed in Table 3.1, ingroup norms about contact with the outgroup is a relevant variable in this context. It correlates both with attitudes towards the outgroup and with the anxiety expected by participants in an imagined intergroup encounter. Moreover, it showed a higher correlation with indirect cross-group friendship than with direct cross-group friendship, which is consistent with

³The values that will be reported for effect decomposition analyses are standardised β s

Figure 3.1: Results for one-level SEM Model, Study 1



Note: All paths are significant ($p < .01$) unless indicated otherwise.

the idea that indirect friendship can change the perceptions of contact norms.

SEM Analysis

Because the questionnaire did not include some of the variables that have been found to mediate the effect of cross-group friendship, such as inclusion of the outgroup in the self (Aron et al., 2004; Page-Gould et al., 2010) or empathy (Batson et al., 1997; Pettigrew & Tropp, 2008), a direct path between cross-group friendship and attitudes was included, hypothesising that intergroup anxiety will partially mediate this effect.

Initially, the measurement model provided an insufficient fit to the data ($\chi^2(27) = 97.78, p < .01, RMSEA = .056; SRMR = .049; CFI = .971$) because the χ^2/df was considerably larger than two. But the fit was significantly improved when an error covariance between the two negative items of ingroup norms was introduced ($\chi^2(26) = 61.49, p < .01, RMSEA = .041; SRMR = .018; CFI = .986; \Delta\chi^2(1) = 36.29, p < .001$). These two items not only differ from the third in that they are negatively worded, but also in that they refer to casual contact whereas the third item refers to the development of cross-group friendships. This error covariance was included in all subsequent models.

The results for the hypothesised model can be observed in Figure 3.1. The model presented a good fit with the data ($\chi^2(27) = 61.68, p < .01, RMSEA =$

.040; SRMR = .018; CFI = .985), and showed the expected relations between the variables. In the model, indirect cross-group friendship predicted the attitudes towards ethnic minorities by affecting both contact norms ($\beta = -.44, p < .001$) and intergroup anxiety ($\beta = -.24, p < .001$), while direct cross-group friendship predicted attitudes both directly ($\beta = .10, p < .001$) and indirectly, by reducing intergroup anxiety ($\beta = -.13, p < .001$). As expected, the relation between direct friendship and contact norms was negligible and not statistically significant ($\beta = -.04, p = .50$).

Both intergroup anxiety and contact norms predicted attitudes towards ethnic minorities ($\beta = -.29, p < .001$ and $\beta = -.38, p < .001$, respectively), and the model accounted for 40.2% of the variance of attitudes. The inclusion of a direct path from indirect friendship to attitudes did not improve the model fit ($\Delta\chi^2(1) = .187, p = .67$) and showed this path to be non-significant ($\beta = .03, p = .57$), suggesting that the effect of indirect friendship was fully mediated by in-group norms about contact and intergroup anxiety. Both direct and indirect cross-group friendship had significant total effects on attitudes towards ethnic minorities ($TE_{\text{direct contact}} = .15, p < .001$; $TE_{\text{indirect contact}} = .24, p < .001$). The effect of direct cross-group friendship was mediated by intergroup anxiety ($SI = .04, p < .05$), but not by norms against contact ($SI = .02, p = .50$). The effect of indirect cross-group friendship, on the other hand, was mediated both by intergroup anxiety ($SI = .07, p < .001$) and by norms against contact ($SI = .17, p < .001$).

I also analysed alternative models in order to provide some support for the causal relationships proposed in the model, testing two alternative models by varying the relative position of cross-group friendship, the mediators and attitudes towards ethnic minorities. For the comparison, a model that excluded the direct path from direct cross-group friendship to attitudes was used. Even though the exclusion of this path produced a significant increase in the chi-square ($\Delta\chi^2(1) = 6.83, p < .001$), the model still presented an adequate fit with the data ($\chi^2(28) = 68.51, p < .01, RMSEA = .042$; SRMR = .023; CFI = .983).

The first alternative model inverted the relation between attitudes and the mediators, so that attitudes mediate the effect of cross-group friendship on intergroup anxiety and contact norms. In this view, cross-group friendship would affect attitudes towards the outgroup directly, and participants with more negative attitudes would expect higher levels of intergroup anxiety in a contact scenario and perceive their ingroup to be less tolerant about having contact with the outgroup. This model did not fit the data as well as the proposed model ($\chi^2(30) = 94.83, p < .01, RMSEA = .051$; SRMR = .042; CFI = .973).

The second alternative model inverted the relation between attitudes and cross-group friendship, so that direct and indirect cross-group friendship mediate the

effect of attitudes on intergroup anxiety and ingroup norms. This model reflects the alternative hypothesis that there is a self-selection process in the development of cross-group friendships, where people with more negative attitudes towards ethnic minorities are less likely to have outgroup friends, or ingroup friends who have outgroup friends. This model did not fit the data well ($\chi^2(28) = 214.44$, $p < .01$, RMSEA = .090; SRMR = .125; CFI = .924).

Multilevel SEM

It was previously hypothesised that the number of direct cross-group friendships at an aggregate level can form the basis for generating ingroup norms about the acceptability of such intergroup contact. Because the data included participants from 89 different classrooms, I had the opportunity to test this group level effect of cross-group friendship. The use of Multilevel Structural Equation Modeling (ML-SEM) takes into account the hierarchical structure of these data, specifying a measurement model and relations between latent variables both at the individual or “within” level and at the classroom or “between” level (see Mehta & Neale, 2005). Most importantly, the use of ML-SEM allows to separate the effect of direct cross-group friendship at the individual level (having actual outgroup friends) from its effect at the classroom level (belonging to a classroom with others that have outgroup friends).

The number of outgroup friends in each classroom is similar to the traditional measure of indirect contact in that it reflects the influence that the amount of intergroup contact of other ingroup members has on each individual. In this case, rather than the behaviour of friends, we are measuring the behaviour of other classroom members. Although students are unlikely to be friends with all their classmates, the frequency of their interactions given by their physical proximity makes the classroom a relevant portion of the ingroup. This propinquity effect has been well documented in sociology and social psychology (e.g. Byrne, 1961; Priest & Sawyer, 1967). Therefore, much in the same way as with indirect cross-group friendship, individuals that belong to a class with several outgroup friends should perceive ingroup norms to be more tolerant and should expect less intergroup anxiety when anticipating intergroup contact. Individual cross-group friendship, on the other hand, is not particularly informative about ingroup norms, and should affect attitudes only by reducing intergroup anxiety.

To test these hypotheses, some simplifications had to be made to the model. The error variance for the first item of intergroup anxiety had to be fixed to zero for the model to converge ($\vartheta_{\epsilon} = -.007$; Hox, 2002). The initial measurement model provided an insufficient fit with the data, particularly at the between level

($\chi^2(35) = 121.83, p < .01$, RMSEA = .055; SRMR_{Within} = .057; SRMR_{Between} = .121; CFI = .97), and further analyses showed that the positively worded item of norms against contact was responsible for this inadequate fit. A model without this item showed an acceptable fit to the data ($\chi^2(23) = 42.78, p < .01$, RMSEA = .032; SRMR_{Within} = .011; SRMR_{Between} = .042; CFI = .99), and was used in the subsequent analyses.

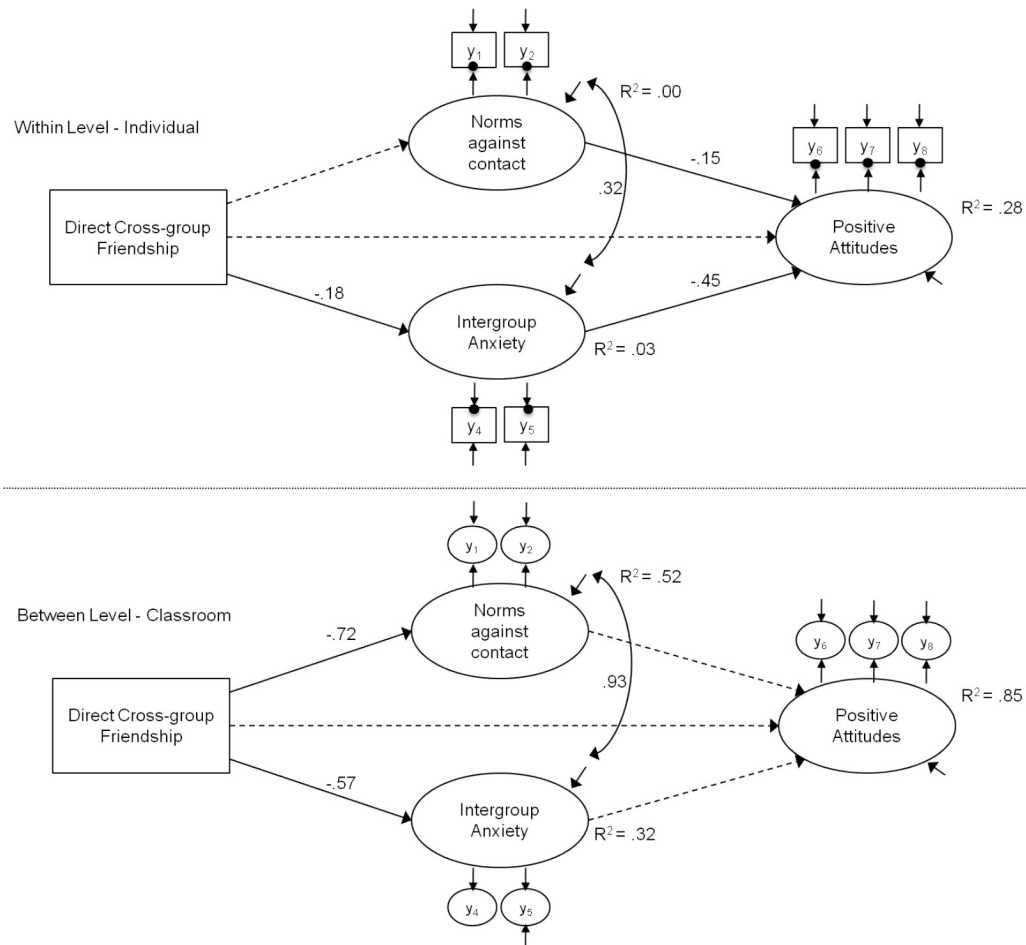
The intraclass correlation (ICC) for attitudes towards ethnic minorities was .155, indicating that 15.5% of the variation in attitudes was at the classroom level, and the remaining 84.5% of the variation corresponded to the individual level. Ingroup norms and intergroup anxiety had relatively smaller ICC coefficients, but there was still considerable variance at the classroom level (ICC_{Ingroup norms} = .070; ICC_{Intergroup anxiety} = .104).⁴

The model with the hypothesised relations showed a good fit with the data ($\chi^2(31) = 73.39, p < .01$, RMSEA = .044; SRMR_{Within} = .018; SRMR_{Between} = .057; CFI = .982), and is presented in Figure 3.2. At the individual (within) level, the results are consistent with the results obtained in the one-level analysis, but now the effect of direct friendship is fully mediated by intergroup anxiety. Direct friendship predicted intergroup anxiety ($\beta = -.18, p < .001$), but did not show a significant relation with contact norms ($\beta = -.05, p = .23$) or a direct path to attitudes towards ethnic minorities ($\beta = .05, p = .17$). Both contact norms and intergroup anxiety predicted attitudes, but now intergroup anxiety showed a greater effect ($\beta = -.45, p < .001$, for intergroup anxiety; and $\beta = -.15, p < .001$, for contact norms). The model explained 28% of the variance of attitudes at the individual level.

At the classroom (between) level, cross-group friendship predicted both contact norms ($\beta = -.72, p < .001$) and intergroup anxiety ($\beta = -.57, p < .001$), and the direct relation between cross-group friendship and attitudes was not significant ($\beta = .18, p = .66$). The relationships between the mediators and attitudes towards ethnic minorities were also non-significant at this level, though the model explained 85% of the between level variance of attitudes (the lack of significant relationships in this case may be due to the high correlation between ingroup norms and intergroup anxiety at the between level). It is worth remarking that the effect of cross-group friendship on ingroup norms and intergroup anxiety at this level is in actuality a cross-level effect; that is, the amount of cross-group friendship in the classroom predicts the intercept of the regressions at the within level. Thus, individuals that belong to a classroom with more outgroup friends have a more

⁴The ICC coefficients for latent variables were calculated as proposed by Muthén (1991), restricting the factor loadings in the measurement model to be equal at the between and within level. This restricted model presented a good fit with the data ($\chi^2(28) = 62.99, p < .01$, RMSEA = .039; SRMR_{Within} = .014; SRMR_{Between} = .029; CFI = .986).

Figure 3.2: Results for multilevel SEM Model, Study 1



Note: All paths are significant ($p < .01$) unless indicated otherwise.

tolerant perception of ingroup norms and lower levels of intergroup anxiety.

These results give additional support to the idea that intergroup contact by other ingroup members has an effect on the attitudes towards the outgroup. In this case, instead of measuring the intergroup contact of fellow ingroup friends (indirect cross-group friendship), the total amount of outgroup friendships reported in the classroom was used. Furthermore, the mechanisms by which cross-group friendship works at the individual level seem to differ from the mechanisms at the classroom level. At an individual level, the effect of having outgroup friends was mediated by intergroup anxiety, but not by ingroup norms. Belonging to a classroom that reported more outgroup friends, on the other hand, affected both intergroup anxiety and the perception of ingroup norms.

3.1.4 Discussion

Giving further evidence for the extended contact hypothesis, the results presented here support the idea that the effect of intergroup contact is not limited to the personal experience with a member of the outgroup. Intergroup contact experienced by other ingroup members (ingroup friends or classmates) also affects intergroup attitudes. In addition, this study suggests that this effect can be explained by a change in the perception of ingroup norms about contact with the outgroup, using both a traditional measure of indirect cross-group friendship and multilevel analysis of direct cross-group friendship.

Using one-level SEM analysis including both direct and indirect cross-group friendships as predictors, the results show that the effect of indirect cross-group friendship is mediated by ingroup norms about contact with the outgroup. The relation between indirect cross-group friendship and ingroup norms about contact was particularly strong, and the path from ingroup norms to attitudes towards the outgroup was comparable to the effect of intergroup anxiety, a well-established mediator of intergroup contact (Brown & Hewstone, 2005; Pettigrew & Tropp, 2008).

The results also supported the same theoretical idea with the use of ML-SEM, in which direct cross-group friendship affected the mediators differently at the individual level compared to the relationships observed at the classroom level. As hypothesised, direct friendship at the individual level did not affect ingroup norms, but ingroup norms were perceived to be more tolerant when individuals belonged to a classroom where outgroup friendships were more prevalent. These results underline the importance of including contextual variables in a theory of intergroup contact. The fact that classrooms with more contact with outgroup members also report more positive attitudes cannot be accounted for by the individual effect that direct contact has on attitudes; this effect is controlled in the *within* part of the model. The relationship is explained by the contact of other classroom members, which affects both intergroup anxiety and the perception of ingroup norms.

Given the cross-sectional nature of this study, the causal relations proposed should be treated with caution. Even though alternative models were tested, and found less adequate in predicting the data, other methodologies are needed. Subsequent studies will seek to evaluate these causal relations using longitudinal studies (in Chapter 6) and experimental evidence (in Chapter 7). Regarding the effect of indirect contact, an argument can be made for the opposite causal direction. It is possible that because people are likely to have ingroup friends with similar views, less tolerant people could be less likely to have indirect cross-group friends. This argument does not apply to multilevel analyses of intergroup contact in the

classroom though, because students cannot choose their classmates. The clustering in attitudes and levels of intergroup contact observed in the classrooms is not a product of self-selection, but the product of a normative process.

Chapter 4

Completing the model, and predicting intention for contact

After the encouraging results from the previous study, I set out to evaluate a more complete model of intergroup contact. Firstly, the two studies presented in this chapter address a topic that has not been studied extensively enough on intergroup contact research: how best to promote positive interactions with outgroup members in the future. The positive effects of intergroup contact on attitudes towards different groups are well documented, and the explicit inclusion of social norms regarding intergroup contact makes looking at intergroup contact as a dependent variable a natural step. Consistent with the theory of planned behaviour (Ajzen, 1991), attitudes towards the outgroup and ingroup norms regarding contact with its members should affect the behavioural intention of engaging in such contact. The research by Fendrich (1967) described in Chapter 2 has already provided support for this idea.

The studies presented here also provide more complete measures of the variables included in the models. Both studies include separate measures of prejudice and positive affect, which provide an important improvement over the feeling thermometer used in Study 1. The measure of intergroup anxiety was also more comprehensive in Study 2, and Study 3 used a more developed measure of ingroup norms regarding cross-group interactions.

Study 3 also introduces another mediator of the effects of cross-group friendship: empathy towards the outgroup. If indirect contact can change the perception of ingroup norms more effectively than direct contact, direct contact also has characteristics that distinguish it from indirect contact. One property of direct intergroup interactions stands out clearly: it involves an unmediated experience with a member of the outgroup, an actual human interaction with shared experiences, disclosure of personal information, eye contact and body language in general. It seems only reasonable that affective processes will be particularly im-

portant, and this has been noted throughout the literature of intergroup contact (Allport, 1954; Brown & Hewstone, 2005; Pettigrew, 1998). In this context, empathy seems a promising candidate for a mechanism that is best served by a direct personal experience with an outgroup member.

In summary, the theoretical model hypothesised in this chapter posits that even though direct and indirect contact are correlated and share some mechanisms such as reducing intergroup anxiety, they also differentially target specific mediators. In particular, indirect contact can change the perception of ingroup norms because it involves the behaviour of other ingroup members, while direct contact is more effective in addressing emotional processes such as empathy because it involves a face-to-face personal interaction. The model also includes intention for contact with outgroup members as a dependent variable, hypothesising that more tolerant ingroup norms can make individuals more willing to engage in positive cross-group interactions in the future, both directly and by affecting intergroup attitudes.

4.1 Study 2: Attitudes towards Peruvian immigrants in Chile

4.1.1 Method

Participants

Three hundred and eleven Chilean school students (53% Female; Mean Age: 14.8 years) voluntarily participated in the study. The study took place in Santiago, and participating schools were located in districts with a suitable proportion of Peruvian immigrants.

Procedure

The data collection was organised in cooperation with principal and the teachers of each school. All students from grades 10 and 11 (first and second year of secondary school) were invited to participate. A letter stating the objectives of the study was sent to the parents, and they were asked to give written consent regarding their son/daughter's participation. Students also received a letter stating the objectives of the study, the voluntary nature of their participation and guaranteeing the anonymity of their responses. In order to increase response rate, all participants were included in a draw offering free cinema tickets. The questionnaire was completed in the classrooms, and the application was overseen by the

teacher.

Measures

The questionnaire included measures of direct friendship, indirect friendship, ingroup norms about contact with the outgroup, intergroup anxiety, prejudice, affect towards the outgroup and intention for future contact with outgroup members.¹

Intergroup contact. Direct friendship was measured by asking participants “How many Peruvian immigrant friends do you have” (from 0 to “6 or more”). Indirect friendship was measured with the following item: “How many of your Chilean friends have Peruvian immigrant friends?” (from 0 to “6 or more”).

Ingroup norms about contact ($\alpha = .78$) were measure with the following items: (1) “My Chilean friends would be happy to have Peruvian immigrant friends”, (2) “My Chilean friends are friendly towards Peruvian immigrants”, (3) “If I had Peruvian immigrant friends, my Chilean friends would be happy to meet them”. The scale ranged from 1, “completely disagree”; to 5, “completely agree”. The three indicators were used for the SEM analysis.²

Intergroup anxiety ($\alpha = .75$). The questionnaire asked participants to report how they usually feel when interacting with Peruvian immigrants using a 5 point semantic differential: (1) “Relaxed - Tense”, (2) “Not threatened - Very threatened”, (3) “Very comfortable - Very uncomfortable”. The three indicators were used for the SEM analysis.

Prejudice ($\alpha = .65$) was measured with 5 items: (1) “I wouldn’t like if most of my classmates were Peruvian”, (2) “Sometimes I think that this country would be better off with less Peruvians”, (3) “The problems that Peruvian people have are due to the way they are”, (4) “It would be uncomfortable to have a Peruvian as my boss”, (5) “I would be uncomfortable if a Peruvian sat beside me in the bus”. The scale ranged from 1, “completely disagree”; to 5, “completely agree”. For the SEM analysis, these items were combined in three indicators (item 2; items 3 and 5; and items 1 and 4)³.

Positive Affect ($\alpha = .85$) was measured by asking participants to what extent the following words described their feelings towards Peruvian immigrants in general: (1) “Admiration”, (2) “Sympathy”, (3) “Respect”, (4) “Affection”, (5) “Trust”. From 1, “I feel little or nothing”; to 5, “I feel a lot”. For the SEM analysis, these items

¹The items presented here have been translated from the original Spanish.

²The questionnaire also included three negatively worded items for ingroup norms, but they did not correlate well with the positive items. More importantly, only the positively worded items were predicted by intergroup contact and had an effect on intergroup attitudes and so the analyses presented here will only include these items.

³Unless stated otherwise, all parcels in this and future studies in this thesis followed the *item-to-construct balance* approach (Little et al., 2002).

were combined in three indicators (item 5; items 2 and 3; and items 1 and 4).

Intention for future contact ($\alpha = .84$) was measured with three items: (1) “I would be happy if I had the opportunity to hang out often with Peruvian immigrants”, (2) “If I had the chance, I would be happy to have a Peruvian friend”, (3) “If I had the chance, I would be willing to talk about a personal problem with a Peruvian immigrant”. From 1, “completely disagree”; to 5, “completely agree”. For the SEM analysis, two parcels were formed: item 2; and items 1 and 3.

4.1.2 Results

Thirty-six percent of participants reported having at least one Peruvian immigrant friend, and 58% reported having indirect outgroup friends. As can be observed in Table 4.1, attitudes were generally close to the middle point of the scales. The correlations between the different variables give some preliminary support to the hypotheses: ingroup norms correlated more strongly with indirect than with direct contact, and affect and ingroup norms were strongly correlated with intention for future contact with Peruvian immigrants.

Table 4.1: Means, S.D. and correlations, Study 2

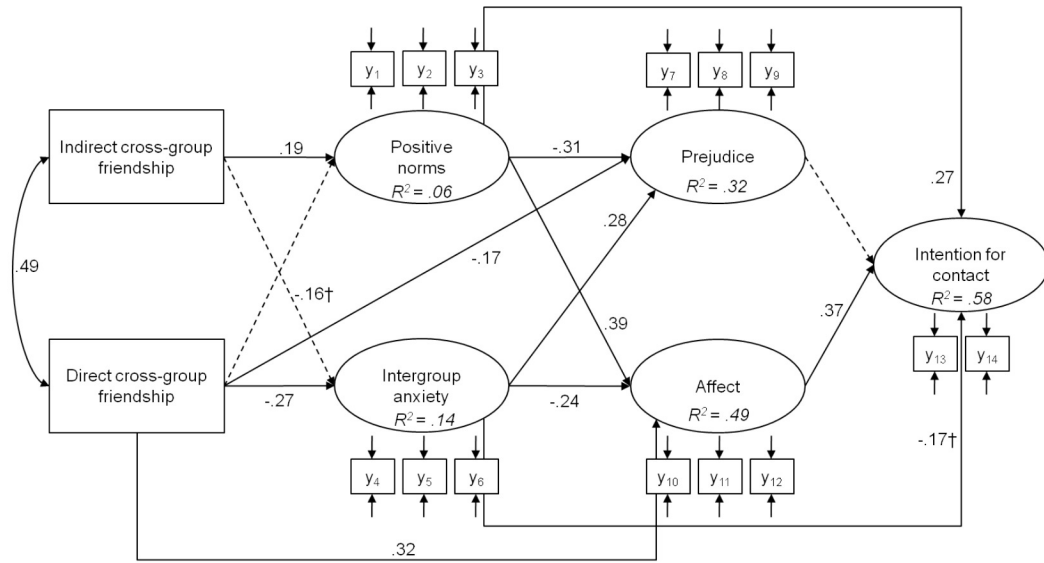
	% of N	Mean	S.D.	IC	NOR	IGA	AFF	PRE	ICO
Direct Contact (DC)	96%	0.84	1.49	.49	.16	-.27	.41	-.25	.36
Indirect Contact (IC)	96%	1.57	1.85	-	.21	-.24	.25	-.14*	.24
Positive Norms (NOR)	100%	2.46	1.03		-	-.36	.45	-.36	.51
Intergroup Anxiety (IGA)	85%	2.66	1.03			-	-.39	.36	-.38
Affect (AFF)	98%	2.30	0.93				-	-.49	.61
Prejudice (PRE)	99%	2.91	0.94					-	-.44
Intention for Contact (ICO)	98%	2.64	1.17						-

Note: * = $p < .05$, all other correlations are significant with $p < .01$

The measurement model showed a good fit with the data ($\chi^2(67) = 112.7$, $p < .01$, RMSEA = .047; SRMR = .045; CFI = .966), and so did the full model with the hypothesised relations ($\chi^2(89) = 123.4$, $p = .01$; RMSEA = .035; SRMR = .043; CFI = .976). The results for this model are presented in Figure 4.1. In a previous model, I included direct paths from indirect contact to both prejudice and affect, but because the direct paths of indirect contact were not statistically significant ($\beta = .04$, $p = .59$ for prejudice; $\beta = -.03$, $p = .70$ for positive affect) they were removed from the final model reported here.

As expected, intergroup anxiety was affected by direct contact ($\beta = -.27$, $p < .01$) and by indirect contact, even though this effect was only marginally significant ($\beta = -.15$, $p = .08$). Ingroup norms, on the other hand, were affected only

Figure 4.1: Results for SEM Model, Study 2



Note: All paths are significant ($p < .05$) unless indicated otherwise, † $p < .10$.

by indirect contact ($\beta = .19$, $p = .01$), and not by direct contact ($\beta = .09$, $p = .18$). The effect of direct contact was not fully mediated by intergroup anxiety. The residual effect of direct contact was significant for both prejudice and positive affect ($\beta = -.15$, $p < .05$ and $\beta = .31$, $p < .01$ respectively). Ingroup norms and intergroup anxiety strongly predicted both prejudice ($\beta = -.30$, $p < .01$ for ingroup norms; $\beta = .27$, $p < .05$ for intergroup anxiety) and positive affect ($\beta = .39$, $p < .01$ for ingroup norms; $\beta = -.24$, $p < .01$ for intergroup anxiety). The total effect of indirect contact is relatively similar for prejudice and for positive affect (TE = $-.098$, $p < .05$ and TE = $.109$, $p < .05$ respectively), but the total effect of direct contact seemed stronger for positive affect (TE = $.41$, $p < .01$) than for prejudice (TE = $-.25$, $p < .01$), supporting the idea that direct contact has a more emotional influence in attitudes. The mediation of the effects of indirect contact was significant for ingroup norms when predicting affect (SI = $.07$, $p < .05$) and when predicting prejudice (SI = $-.06$, $p < .05$); but this was not the case for the mediation via intergroup anxiety (SI = $.04$, $p = .13$ for positive affect; and SI = $-.04$, $p = .15$ for prejudice). In the case of direct contact, the indirect effect via intergroup anxiety was significant when predicting positive affect (SI = $.07$, $p < .05$) and marginally significant when predicting prejudice (SI = $-.08$, $p = .07$).

As expected, intention for future intergroup contact with Peruvian immigrants was strongly predicted both by positive affect ($\beta = .37$, $p < .01$) and by ingroup norms about intergroup contact ($\beta = .27$, $p < .01$). The effect of intergroup

anxiety was only marginally significant ($\beta = -.17, p = .09$), and the effect of prejudice was not significant ($\beta = -.10, p = .37$). It is important to note that positive affect is in this case a partial mediator of the effect of ingroup norms. The total effect of ingroup norms on intention for contact was strong ($TE = .45, p < .01$), and the specific indirect effect of ingroup norms on intention for contact via positive affect was significant ($SI = .14, p < .01$). The model predicted 32% of the variance of prejudice, 49% of the variance of positive affect and 58% of the variance of intention for intergroup contact.

Alternative models

Given the cross-sectional nature of this study, a series of models with alternative causal sequences were also evaluated. The model proposed has a causal sequence with four elements: intergroup contact (C), the proposed mediators (M), attitudes (A) and intention for contact (I), and Table 4.2 provides the fit indices for all twenty-four permutations of this sequence. Because the reversal of the paths in an SEM model provides the same fit to the data, the table only has twelve elements.

In order to make this comparison, the models were simplified so that each step in the sequence was fully mediated. In the case of the model proposed here (the *base model*), the direct paths from direct cross-group friendship to positive affect and prejudice, from ingroup norms to intention for contact and from intergroup anxiety to intention for contact were removed. The reason for this simplification is that as the models approach saturation (when all the relations between the variables are estimated, either with correlations or regressions), alternative models will provide the same fit to the data. The simplified base model still provided an adequate fit to the data ($\chi^2 (93) = 176.12, p < .01$; RMSEA = .054; SRMR = .058; CFI = .942).

As can be observed in Table 4.2, the different models were separated in two broad groups regarding their fit indices. Five alternative models provided a similar fit to the data compared to the base model (CFI of approximately .95), while the other six had a considerably worse fit (CFI of approximately .90). The difference between these two groups is the role of direct and indirect contact in the models: the models with worse fit consider intergroup contact as a mediator of the relation between psychological variables. Clearly, the results do not support that idea⁴.

The other differences in fit are minor, and respond to the strength of the relations between the variables. The model that provides the best fit to the data (CAIM) includes an estimation of paths between direct contact and attitudes, and

⁴Indeed, the results of the evaluation of alternative models in Study 1 was also consistent with this interpretation. The model with the sequence *attitudes - intergroup contact - mediators* provided a considerably worse fit than the other two.

between the mediators and intention for contact, all of which were significant in the model reported in Figure 4.1, and are not included in the base model.

Table 4.2: Fit indices for alternative models, Study 2

Model	Inversion	Model Fit
<i>Base Model</i>		
CMAI	IAMC	χ^2 (93) = 176.12, $p < .01$; RMSEA = .054; SRMR = .058; CFI = .942
<i>Alternative Models</i>		
MAIC	CIAM	χ^2 (95) = 174.28, $p < .01$; RMSEA = .052; SRMR = .059; CFI = .947
AICM	MCIA	χ^2 (95) = 251.68, $p < .01$; RMSEA = .073; SRMR = .145; CFI = .895
ICMA	AMCI	χ^2 (93) = 279.69, $p < .01$; RMSEA = .080; SRMR = .134; CFI = .875
ACIM	MICA	χ^2 (95) = 250.15, $p < .01$; RMSEA = .072; SRMR = .144; CFI = .897
ACMI	IMCA	χ^2 (93) = 247.47, $p < .01$; RMSEA = .073; SRMR = .144; CFI = .897
AIMC	CMIA	χ^2 (95) = 166.92, $p < .01$; RMSEA = .049; SRMR = .064; CFI = .952
AMIC	CIMA	χ^2 (95) = 180.02, $p < .01$; RMSEA = .054; SRMR = .064; CFI = .943
CAIM	MIAC	χ^2 (95) = 149.91, $p < .01$; RMSEA = .043; SRMR = .057; CFI = .962
CAMI	IMAC	χ^2 (93) = 162.26, $p < .01$; RMSEA = .049; SRMR = .056; CFI = .952
MCAI	IACM	χ^2 (93) = 237.35, $p < .01$; RMSEA = .071; SRMR = .138; CFI = .904
MACI	ICAM	χ^2 (93) = 265.59, $p < .01$; RMSEA = .077; SRMR = .127; CFI = .885

Note: CMAI stands for *Contact, Mediators, Attitudes and Intention* for contact.

4.1.3 Discussion

The results obtained in Study 1 were replicated and extended in this study. Once again, ingroup norms were shown to be an important mediator of indirect contact, but not of direct contact. The effect of direct contact was also only partially mediated by intergroup anxiety, suggesting that other mechanisms must be added to explain its influence. The fact that these residual effects of direct contact seemed stronger for positive affect than for prejudice suggest that including an emotional mediator like empathy may provide a more complete account of this process.

As expected, ingroup norms were particularly relevant in predicting intention for future contact, and their effect was partially mediated by positive affect. Even though the data is cross-sectional, the fact that ingroup norms have both direct and indirect effects on willingness for intergroup contact suggests that a process of internalisation, where norms influence behavioural intentions *because* they produce a change in personal attitudes; and a process of compliance, where norms influence behavioural intentions *regardless* of personal attitudes.

4.2 Study 3: Attitudes towards Immigrants in the U.K.

Besides including more variables in the model, the measures developed for this study constitute an important addition to the research that has been reported so far. Of particular interest for this research project is the measure of ingroup norms regarding contact, which only had three items in the previous studies, and generally had lower reliability. As will be described in the Method section, the scale now included several items and was highly reliable. Again, the focus in developing these items was in the expected reaction of relevant ingroup members (ingroup friends, in this case) if the participant were to engage in close or frequent cross-group interactions.

4.2.1 Method

Participants and procedure

One hundred and twenty-two British undergraduates (76.9% Female; Mean Age, 20.3 years) voluntarily participated in this study. Participants were included in a raffle for a £30 prize or were offered the choice to get course credits in the case of psychology students. The data collection was done without any particular supervision. Participants took the questionnaires from the psychology office and return them to my office once they were completed.

Measures

The questionnaire included measurements of direct and indirect contact, ingroup norms about contact with immigrants, intergroup anxiety, empathy, prejudice, positive affect and intention for future contact.

Intergroup contact. Direct contact was measured with the following item: “How many immigrant friends do you have?” (from 0 to “10 or more”). Indirect contact was measured by asking participants “How many English friends do you have that have immigrant friends?” (from 0 to “10 or more”).

Ingroup norms about contact ($\alpha = .93$) were measured with seven items: (1) “I believe that my English friends would feel uneasy if I were to frequently hang around with immigrants”; (2) “I believe that my English friends would feel a bit tense if I invited an immigrant friend for dinner”; (3) “I think that if I invited an immigrant friend to meet my English friends, they would receive him/her with a bit of suspicion”; (4) “I believe that my English friends would think it’s slightly awkward if I invited an immigrant friend to my house during the holidays”; (5)

“I think that my English friends wouldn’t like it much if I had a close immigrant friend”; (6) “I think that my English friends would be a bit apprehensive if I started dating an immigrant”. The scale ranged from 1, “disagree strongly”; to 7, “agree strongly”. Two indicators were used for the SEM analysis: items 4, 5 and 7; and items 1, 2, 3 and 6.

Intergroup anxiety ($\alpha = .86$) was measured by asking participants to imagine a situation in which they were the only English person working with a group of immigrants, and rate to what extent they would feel (1) “Nervous”, (2) “Comfortable”, (3) “Anxious”, (4) “At ease”, (5) “Awkward”, (6) “Accepted”. The scale ranged from 1, “not at all”; to 7, “very much”. For the SEM analysis, two indicators were used: items 3, 4 and 6; and items 1, 2 and 5.

Empathy ($\alpha = .88$) was measured with three items: (1) “I am able to see things from the point of view of immigrants”; (2) “I am able to put myself in the shoes of immigrants”; (3) “I am able appreciate what immigrants must be feeling”, using a scale from 1, “strongly disagree”; to 7, “strongly agree”. For the SEM analysis, items 1 and 3 were combined to form a single indicator.

Prejudice ($\alpha = .88$). This scale consisted of seven items: (1) “Immigrants have jobs that English people should have”; (2) “Most politicians in England care too much about immigrants and not enough about the English people in need”; (3) “Over the past few years, immigrants have received more benefits than they deserve”; (4) “If immigrants would only try harder, they could be as well off as English people”; (5) “Immigrants get more from this country than they contribute”; (6) “Social services has become less available to English people because of immigration”; (7) “Immigration is undermining English culture”. The scale ranged from 1, “strongly disagree”; to 7, “strongly agree”. Two indicators were used for the SEM analysis: items 1, 3, 5 and 7; and items 2, 4 and 6.

Positive Affect ($\alpha = .86$) was measured by asking participants the following questions: (1) “How much do you like immigrant people in general?”, (2) “In general, how much do you trust immigrants?”, and (3) “How much do you admire immigrant people?”. The scale ranged from 1, “not at all”; to 7, “very much.” Two indicators were used for the SEM analysis: item 2, and items 1 and 3.

Intention for future contact ($\alpha = .70$) was measured with the following items: (1) “I would be really pleased if I had the chance to meet frequently with lots of immigrants”; (2) “If I have the chance, I would be happy to have an immigrant friend” (from 1, “disagree strongly”; to 7, “agree strongly”); and (3) “Imagine that you had a problem that was worrying you. How likely would it be that you would speak an immigrant about it?” (from 1, “not at all likely”; to 7, “very likely”. For the SEM analysis, items 1 and 3 were combined into a single indicator.

4.2.2 Results

As could be expected in this university setting, participants reported a considerable amount of intergroup contact with immigrants. Seventy-two percent reported having at least one immigrant friend, and 79% reported having indirect outgroup friends. As can be observed in Table 4.3, attitudes were in general in the positive spectrum of the scales.

As in the previous study, the correlations give preliminary support for the model. Ingroup norms correlated significantly with indirect contact, and the correlation with direct contact is only marginally significant; and intention for contact was strongly correlated with positive affect, ingroup norms and prejudice.

Table 4.3: Means, S.D. and correlations, Study 3

	% of N	Mean	S.D.	IC	NOR	IGA	EMP	AFF	PRE	ICO
Direct Contact (DC)	99%	2.88	2.85	.64**	-.16†	-.31**	.29**	.36**	-.10 <i>ns</i>	.33**
Indirect Contact (IC)	98%	5.05	4.09	-	-.26**	-.31**	.28**	.33**	-.19*	.35**
Negative Norms (NOR)	100%	2.07	1.16		-	.46**	-.10 <i>ns</i>	-.36**	.49**	-.53**
Intergroup Anxiety (IGA)	99%	3.62	1.12			-	-.10 <i>ns</i>	-.38**	.40**	-.44**
Empathy (EMP)	99%	4.33	1.30				-	.36**	-.21*	.35**
Affect (AFF)	98%	4.79	1.00					-	-.54**	.63**
Prejudice (PRE)	99%	3.07	1.19						-	-.51**
Intention for Contact (ICO)	99%	4.75	0.96							-

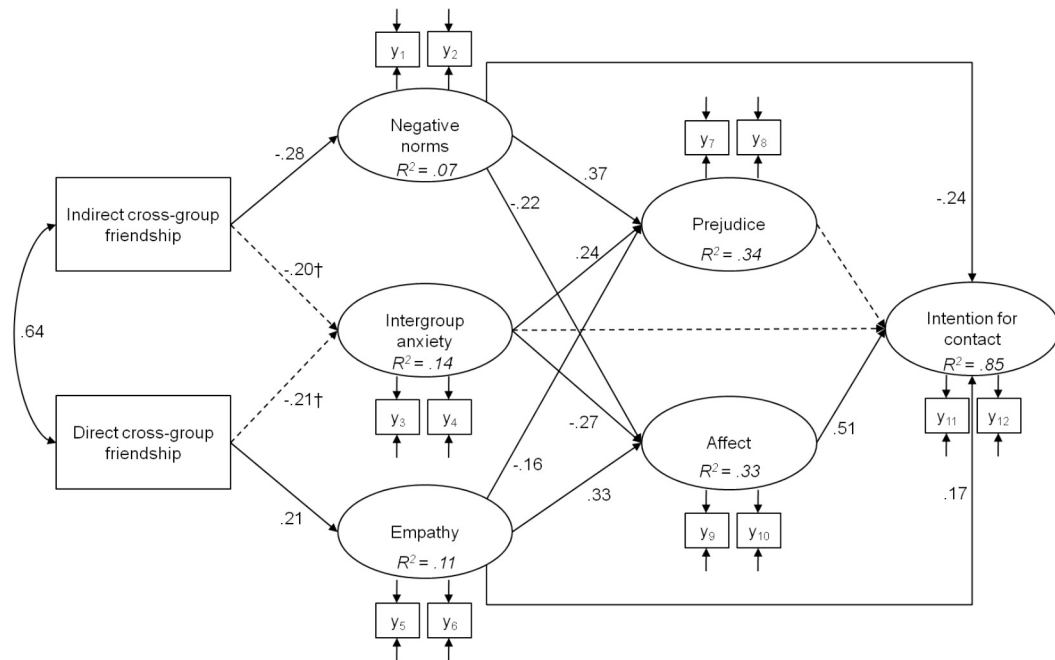
Note: ** = $p < .01$; * = $p < .05$; † = $p < .10$

The measurement model showed a good fit with the data ($\chi^2(39) = 56.18$, $p = .04$; RMSEA = .060; SRMR = .037; CFI = .978), and so did the full model with the hypothesised relations ($\chi^2(57) = 71.19$, $p = .10$; RMSEA = .045; SRMR = .045; CFI = .983). The results for this model are presented in Figure 4.2.

As expected, direct and indirect contact did not affect the mediators in the same way. Indirect contact significantly predicted ingroup norms ($\beta = -.28$, $p < .05$), but the path from direct contact to norms was not significant ($\beta = .01$, $p = .92$). Conversely, direct contact significantly predicted empathy ($\beta = .21$, $p < .05$), but the path from indirect contact to empathy was not significant ($\beta = .15$, $p = .18$). Both direct and indirect contact predicted intergroup anxiety, though these relationships were only marginally significant ($\beta = -.21$, $p = .08$ and $\beta = -.20$, $p = .08$ respectively).

Empathy was the strongest predictor of positive affect ($\beta = .33$, $p < .01$), followed by intergroup anxiety and ingroup norms ($\beta = -.27$, $p < .05$ and $\beta = -.22$, $p < .05$ respectively), and ingroup norms were the main predictor of prejudice ($\beta = .37$, $p < .01$), followed by intergroup anxiety and empathy ($\beta = .24$, $p < .05$ and $\beta = -.16$, $p < .05$ respectively). The total effect of indirect contact was relatively similar for prejudice and for positive affect (TE = -.18, $p < .05$ and TE = .16, $p < .05$).

Figure 4.2: Results for SEM Model, Study 3



Note: All paths are significant ($p < .05$) unless indicated otherwise, $^\dagger p < .10$.

.05 respectively), but the total effect of direct contact seemed stronger for affect than for prejudice, even though they did not reach statistical significance ($TE = .12$, $p = .08$ for affect; $TE = -.08$, $p = .30$ for prejudice).

Consistent with the results of the previous study, intention about future contact with outgroup members was strongly predicted by affect towards immigrants ($\beta = .51$, $p < .01$) and also by ingroup norms about intergroup contact ($\beta = -.24$, $p = .05$). Just as with ingroup norms, empathy also had a significant direct effect on intention for contact ($\beta = .17$, $p = .05$), but neither prejudice nor intergroup anxiety predicted intention for contact ($\beta = -.18$, $p = .10$ and $\beta = -.13$, $p = .21$ respectively). As expected, the total effect of ingroup norms on intention for contact was strong ($TE = -.42$, $p < .01$), and its indirect effect via positive affect was marginally significant ($\beta = -.11$, $p = .08$). The model predicted 34% of the variance of prejudice, 33% of the variance of positive affect and 85% of the variance of intention for intergroup contact.

Alternative models

A series of models with alternative causal sequences were evaluated using the same procedure as in Study 2 (described in page 69). As can be observed in Table 4.4, the simplification of the base model still provided an adequate fit to

the data ($\chi^2(60) = 82.30, p < .05$; RMSEA = .055; SRMR = .059; CFI = .973), and once again the models with intergroup contact as a mediator of the relation between psychological variables provided an insufficient fit to the data (CFI of approximately .90).

Another factor that seems to have affected the fit of the models was the relation between intention for contact and affect, that was particularly strong in the model presented in Figure 4.2. Models where the relation between attitudes and intention for contact was fixed to zero had a considerably worse fit.

Table 4.4: Fit indices for alternative models, Study 3

Model	Inversion	Model Fit
<i>Base Model</i>		
CMAI	IAMC	$\chi^2(60) = 82.30, p < .05$; RMSEA = .055; SRMR = .059; CFI = .973
<i>Alternative Models</i>		
MAIC	CIAM	$\chi^2(64) = 93.46, p < .01$; RMSEA = .061; SRMR = .066; CFI = .966
AICM	MCIA	$\chi^2(64) = 119.93, p < .01$; RMSEA = .085; SRMR = .157; CFI = .936
ICMA	AMCI	$\chi^2(60) = 152.08, p < .01$; RMSEA = .112; SRMR = .147; CFI = .895
ACIM	MICA	$\chi^2(65) = 148.32, p < .01$; RMSEA = .103; SRMR = .166; CFI = .905
ACMI	IMCA	$\chi^2(61) = 141.23, p < .01$; RMSEA = .104; SRMR = .168; CFI = .908
AIMC	CMIA	$\chi^2(63) = 77.64, p < .10$; RMSEA = .044; SRMR = .052; CFI = .983
AMIC	CIMA	$\chi^2(63) = 109.60, p < .01$; RMSEA = .078; SRMR = .066; CFI = .947
CAIM	MIAC	$\chi^2(65) = 83.68, p = .06$; RMSEA = .049; SRMR = .058; CFI = .977
CAMI	IMAC	$\chi^2(61) = 109.62, p < .01$; RMSEA = .081; SRMR = .072; CFI = .941
MCAI	IACM	$\chi^2(62) = 115.55, p < .01$; RMSEA = .084; SRMR = .161; CFI = .939
MACI	ICAM	$\chi^2(62) = 158.36, p < .01$; RMSEA = .113; SRMR = .153; CFI = .890

Note: CMAI stands for *Contact, Mediators, Attitudes* and *Intention* for contact.

4.2.3 Discussion

This study provided a more complete model where the effects of intergroup contact were fully mediated. By including a measure of empathy, the results further support the idea that direct and indirect intergroup contact may rely on different mechanisms to achieve its effects on intergroup attitudes. As in previous studies, only indirect contact had a significant effect on the perception of ingroup norms regarding intergroup interactions. But this study also identified empathy as a mechanism where direct contact is more effective. Indeed, only direct experiences with outgroup members predicted the levels of empathy towards the outgroup. The fact that direct and indirect contact had mediators that were specific to each, and that showed a strong relation with attitudes and behavioural

intentions, underlines the complementarity of these effects, and the necessity of a better understanding of both processes.

This study also replicated the results of Study 2 in showing that affect and ingroup norms are relevant in predicting intention for future contact, that the effect of ingroup norms on behavioural intentions is attained both by influencing positive affect and directly, regardless of the participants self-reported attitudes towards the outgroup. Even though it was not hypothesised, the same occurred with empathy; which also had an unmediated effect on behavioural intentions for intergroup contact. This result merits further research, and it is consistent with much of the literature on the effects of empathy. Indeed, empathy has been found to be an important predictor of intergroup behaviours, such as helping members of stigmatised groups (Batson et al., 2002).

It is also interesting that ingroup norms seemed to have a stronger effect on prejudice than on affect in this study, while empathy had a stronger effect on affect than on prejudice. Previous research (Paolini et al., 2007) has shown that indirect contact seems to have a more cognitive effect, while the effect of direct contact is more emotional, and perhaps the role of ingroup norms and empathy may explain this difference between them. It should be noted, however, that this emphasis was considerably less clear for ingroup norms in Study 2, where the items used were positively worded. I believe that these findings certainly grant further attention, but it is possible that they are simply the result of the wording of the items: negatively worded for prejudice and ingroup norms, and positively worded for empathy and affect.

4.3 General discussion

The two studies presented in this chapter provided further support for the model that was developed in the introduction, replicating the mediation of the effect of indirect contact via ingroup norms, including more comprehensive measures of attitudes and the mediators, and adding intention for engaging in intergroup contact as a dependent variable. With the inclusion of a measure of empathy in Study 3, the effects of direct and indirect intergroup contact were fully mediated in the model, and their complementarity was underlined by showing that they rely on different processes to improve intergroup attitudes.

Consistent with previous research (Pettigrew & Tropp, 2008; Turner, Hewstone & Voci, 2007a; Turner et al., 2007b), both direct and indirect contact affected intergroup anxiety, even if the relation was only marginally significant in Study 3. More importantly, each type of contact had a mediator that was not affected by the other. In the case of indirect contact, it was ingroup norms; for direct contact,

it was empathy.

The proposed model was very effective in predicting intention for future contact with outgroup members. As expected, the results reported by Fendrich (1967) were replicated in both studies. Intergroup attitudes, and more specifically positive affect towards the outgroup, was an important predictor of the intention of having positive cross-group interactions in the future. The fact that it was positive affect, rather than prejudice, which significantly predicted intention for future contact, is also consistent with previous research. Emotional components of attitudes seem to be better predictors of willingness to engage in cross-group interactions (Dovidio et al., 2002a).

But regardless of individuals' own views of the outgroup, intention for contact also showed a correspondence with the perceived ingroup norms regarding such contact. In addition, part of the effect of positive affect on behavioural intentions was due to the perception of ingroup norms in the first place, that seems to have a strong influence in shaping such attitudes. The importance of ingroup norms in predicting intention for future contact supports the idea that indirect contact could be used to prepare individuals for intergroup contact in settings where intergroup relations are marked by stronger conflict and segregation (Turner et al., 2008).

As in the previous chapter, because of the cross-sectional nature of the studies reported here the causal relations proposed in the model should only be considered to have preliminary support. The results of the alternative models provided some support for the causal sequence, indicating that intergroup contact cannot account for the relation between the different psychological variables. But the fit of the alternative models provided no information about the causal relations between the perception of ingroup norms, intergroup anxiety, empathy, attitudes and intention for contact. Other methodologies are needed in order to gain a clearer understanding of these processes.

Chapter 5

The relevance of norms *about contact*, and moderators of normative influence

Studies 1 through 3 provided some evidence in support of Wright et al.'s (1997) contention that ingroup norms regarding contact with outgroup members are an important mediator of the effect of indirect contact. They were strongly affected by the number of ingroup friends who had outgroup friends, and proved to be a relevant predictor of attitudes towards ethnic minorities in Norway, and immigrants in Chile and the U.K. The study presented in this chapter aims to clarify some of the theoretical issues implied in the model.

A first question relates to the focus on contact. As was described in the second chapter, norms about other behaviours, particularly about expressing prejudice, have been shown to influence intergroup attitudes. It seems reasonable to postulate that the focus on intergroup contact in this measure is not necessary, and that the scale is simply reflecting a perception that the ingroup should not express prejudice towards outgroup members. Contrary to this idea, this chapter hypothesises that even though norms about expressing prejudiced attitudes and having contact with outgroup members are likely to be related, the focus on intergroup contact is not irrelevant.

Having close interpersonal relations with outgroup members is not a behaviour that people can adopt just for the sake of political correctness. It reflects a genuine recognition of another person that belongs to a different group, and will thus have a stronger influence on intergroup attitudes. This analysis will also evaluate other possible predictors of ingroup norms: overhearing negative remarks by family and friends or in the media, and perceived discrimination.

Another issue that will be addressed in this chapter is the normative nature

of this mediator. In other words, that the scale is reflecting a normative influence rather than personal preferences. The items used to measure norms about contact throughout this research project were designed to focus on the perceived reactions towards intergroup contact that other ingroup members have, or would have. But in order to support the idea of a normative influence it is necessary to evaluate its relation with other variables.

There are several variables that would be expected to moderate a normative influence, but perhaps the most important of these is ingroup identification. People who do not identify with a group should not be greatly affected by the group's norms (Abrams et al., 1998). Other moderators considered in this study are conservatism and authoritarianism, both of which should make people more susceptible to normative influence. It will be recalled that Pettigrew (1958) showed that conservatism was related to more negative attitudes towards Blacks in South Africa, supporting the idea that attitudes were being influenced by a normative process. In this study, this argument will be evaluated by testing if conservatism moderates the influence of ingroup norms. People with higher levels of authoritarianism should also be more susceptible to normative influences (Altemeyer, 1996).

On the same line, if the effect of indirect contact is of a normative nature, it should be also moderated by these variables, which would provide further support for the idea that indirect contact has a normative effect, but direct contact does not.

5.1 Study 4: Attitudes towards Immigrants and immigration in the U.K.

5.1.1 Method

Participants and Procedure

One-hundred and forty-two English university students participated in this study (90% Female; Mean Age = 20.2, S.D. = 4.8). Participants were approached in different places of the university (mainly the library and cafeterias) and offered the opportunity to participate in a £30 raffle for answering the questionnaire.

Measures

Direct cross-group friendship was measured by asking participants "How many immigrant friends do you have?", using an 11 point scale from 0 to "10 or more".

Indirect cross-group friendship was measured by asking participants “How many English friends do you have that have immigrant friends?”, using an 11 point scale from 0 to “10 or more”.

Exposure to discrimination was measured by asking participants “How often have you seen someone bother or attack an immigrant?”, using a scale from 1, “Never”; to 7, “Very often”.

Exposure to negative remarks about immigrants was measured by asking participants how often they have heard negative remarks about immigrants or about immigration (1) “In your family?”, (2) “By some of your friends”, (3) “In the TV or other media (newspapers, radio, internet)” and (4) “By politicians and people in positions of authority”. The scale ranged from 1, “Never”; to 7 “Very often”. Based on the results of a CFA, two scales were formed: exposure to negative remarks by close family and friends, using items 1 and 2 ($\alpha = .76$), and exposure to negative remarks by the media, using items 3 and 4 ($\alpha = .83$).

Norms about contact ($\alpha = .82$) were measured by asking participants: *In general, I think English people...*, (1) “...would encourage others to have close social relationships with immigrants”, (2) “...would be happy to have a close relation with an immigrant themselves”, (3) “... do not like to have much contact with immigrants”, (4) “...would be pleased to have immigrant friends”, (5) “... sometimes feel uneasy socialising with immigrants”, and (6) “... are generally suspicious if they meet an immigrant”, using a scale from 1, “Disagree strongly”; to 7, “Agree strongly”. For the SEM analyses, three parcels were formed (items 4 and 5, items 2 and 3, and items 1 and 6).

Norms about expressing prejudice ($\alpha = .86$) were measured in the same section as norms about contact, and the items of these two scales were mixed in the questionnaire. *In general, I think English people...*, (1) “... are very concerned about not being prejudiced towards immigrants”, (2) “... would never speak badly of immigrant people in a discussion”, (3) “... avoid saying things that may be offensive to immigrants”, (4) “... think that it’s disagreeable to show intolerance towards immigrants”, (5) “... try not to discriminate against immigrants”, and (6) “... make an effort to appear open-minded towards immigrants”. For the SEM analyses, three parcels were formed (items 3 and 5, items 2 and 4, and items 1 and 6).

Intergroup anxiety ($\alpha = .91$) was measured with the following: *Please try to imagine a situation in which you were the only English person working with a group of immigrants. How would you feel?*, (1) “Nervous”, (2) “Comfortable”, (3) “Anxious”, (4) “At ease”, (5) “Awkward”, (6) “Accepted”. Using a scale from 1, “Not at all”; to 7, “Very much”. For the SEM analyses, three parcels were formed (items 1 and 6, items 2 and 5, and items 4 and 3).

Positive affect ($\alpha = .89$) was measured with the following items: (1) “How much do you like immigrant people in general?”, (2) “In general, how much do you trust immigrants?”, and (3) “How much do you admire immigrant people?”, using a scale from 1, “Not at all”; to 7, “Very much”. The three indicators were used for the SEM analyses.

Prejudice ($\alpha = .89$) was measured with the following items: (1) “Most politicians in England care too much about immigrants and not enough about the English people in need”, (2) “Immigration is undermining English culture”, (3) “Sometimes I think that this country would be better off if we had fewer immigrants”, (4) “Immigrants exaggerate their problems to get help”, (5) “Immigrants should learn to conform to the rules and norms of British society”, and (6) “Immigrants take jobs that English people should have”, using a scale from 1, “Disagree strongly”; to 7, “Agree strongly”. For the SEM analyses, three parcels were formed (items 3 and 4, items 2 and 5, and items 1 and 6).

Intention for contact ($\alpha = .88$) was measured with the following items: (1) “I would be really pleased if I had the chance to meet frequently with lots of immigrants”, (2) “If I have the chance, I would be happy to have an immigrant friend”, using a scale from 1, “Disagree strongly”; to 7, “Agree strongly”; (3) “Imagine that you had a problem that was worrying you. How likely would it be that you would speak to an immigrant about it?”, and (4) “Imagine that you had an important secret. How likely would it be that you would tell an immigrant about it?”, using a scale from 1, “Not at all likely”; to 7, “Very likely”. For the SEM analyses, two parcels were formed (items 1 and 2, and items 3 and 4).

Immigration support ($\alpha = .82$) was measured with the following items: (1) “I favour the immigration of foreigners to England”, (2) “I believe that there has been enough immigration to England”, and (3) “I think that more immigration to England is needed”, using a scale from 1, “Disagree strongly”; to 7, “Agree strongly”. The three indicators were used for the SEM analyses.

Ingroup identification ($\alpha = .87$) was measured with two items. (1) “The fact that I am English is an important part of my identity” and (2) “Being English is an important part of how I see myself”, using a scale from 1, “Disagree strongly”; to 7, “Agree strongly”. The two indicators were used for the SEM analyses.

Social independence ($\alpha = .67$) was measured with two items: (1) “Nobody should stick to the ‘straight and narrow’. Instead, people should break loose and try out lots of different ideas and experiences” and (2) “Our country needs free thinkers who have the courage to defy traditional ways, even if this upsets many people”, using a scale from 1, “Disagree strongly”; to 7, “Agree strongly”. These items belong to the RWA scale developed by Altemeyer (1996), and have been primarily classified as (inversely) expressing conservative attitudes, conventional-

ism and authoritarian submission (Duckit & Fisher, 2003). Items 1 and 2 were used as indicators for the SEM analyses.

Authoritarian aggression ($\alpha = .80$) was measured with two items: (1) “An English person who has violated societal rules should be punished severely”, (2) “If an English person has violated societal rules, he or she does not necessarily have to be punished”, using a scale from 1 “Disagree strongly”; to 7, “Agree strongly”. The questionnaire included the full measure of group authoritarianism proposed by Stellmacher & Petzel (2005), that also has the components of authoritarian submission (3) “English people should do nothing that contradicts the norms or rules of English society”, (4) “Sometimes English people may counteract societal rules”; and conventionalism (5) “English people must obey the government in all circumstances”, and (6) “An English person should only obey orders of the government if they match his or her own interests”. But only the items belonging to the sub-scale of authoritarian aggression formed a reliable scale (r items 3 and 4 = .02; r items 5 and 6 = .21). Items 1 and 2 were used as indicators for the SEM analyses.

Table 5.1: Means, S.D. and correlations, Study 4

	Mean	S.D.	IF	PD	CNR	MNR	CN	EN	IGA
Direct cross-group friendship (DF)	3.20	3.08	.61**	.30**	-.06 <i>ns</i>	.05 <i>ns</i>	.39**	.27**	-.31**
Indirect cross-group friendship (IF)	5.17	3.41	-	.13 <i>ns</i>	-.15*	-.01 <i>ns</i>	.34**	.30**	-.25**
Perceived discrimination (PD)	2.14	1.39		-	.35**	.31**	-.16†	-.14†	-.08 <i>ns</i>
Close negative remarks (CNR)	3.16	1.53			-	.47**	-.39**	-.43**	.30**
Media negative remarks (MNR)	4.12	1.43				-	-.30**	-.24**	.02 <i>ns</i>
Positive contact norms (CN)	4.11	0.88					-	.67**	-.26**
Positive expression norms (EN)	4.24	0.99						-	-.24*
Intergroup anxiety (IGA)	3.71	1.32							-
(Continued)			IDE	SI	AU	AFF	PRE	IC	IMM
Direct cross-group friendship (DF)			-.04 <i>ns</i>	-.04 <i>ns</i>	.04 <i>ns</i>	.53**	-.20*	.51**	.15†
Indirect cross-group friendship (IF)			.00 <i>ns</i>	.14†	-.08 <i>ns</i>	.41**	-.25**	.45**	.21**
Perceived discrimination (PD)			-.06 <i>ns</i>	.09 <i>ns</i>	.08 <i>ns</i>	-.02 <i>ns</i>	.05 <i>ns</i>	.08 <i>ns</i>	.09 <i>ns</i>
Close negative remarks (CNR)			.09 <i>ns</i>	-.05 <i>ns</i>	.19*	-.29**	.45**	-.29**	-.38**
Media negative remarks (MNR)			-.13 <i>ns</i>	.06 <i>ns</i>	.09 <i>ns</i>	-.07 <i>ns</i>	.02 <i>ns</i>	-.01 <i>ns</i>	.07 <i>ns</i>
Positive contact norms (CN)			.00 <i>ns</i>	-.02 <i>ns</i>	-.07 <i>ns</i>	.49**	-.27**	.44**	.21*
Positive expression norms (EN)			-.01 <i>ns</i>	.01 <i>ns</i>	-.17*	.44**	-.24*	.36**	.18†
Intergroup anxiety (IGA)			.26**	-.31**	.02 <i>ns</i>	-.51**	.54**	-.47**	-.51**
Ingroup identification (IDE)	4.37	1.42	-	-.16†	.09 <i>ns</i>	-.22*	.42**	-.23**	-.45**
Social Independence (SI)	4.73	1.18		-	-.17†	.16†	-.26**	.18*	.32**
Authoritarianism (AU)	3.88	1.46			-	-.15†	.31**	-.24**	-.30**
Positive Affect (AFF)	4.75	1.12				-	-.56**	.76**	.51**
Prejudice (PRE)	3.37	1.27					-	-.50**	-.77**
Intention for contact (IC)	4.86	1.18						-	.48**
Immigration support (IMM)	3.76	1.10							-

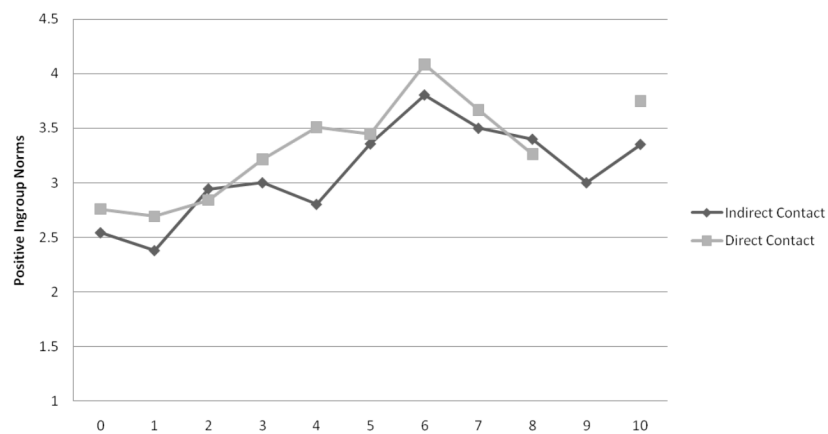
Note: ** $p < .01$, * $p < .05$, † $p < .10$

5.1.2 Results

The means, standard deviations and correlations between the variables considered in this study can be observed in Table 1. Seventy-seven percent of participants reported having at least one direct cross-group friend, and 91% reported having at least one indirect cross-group friend.

Replication of previous results

Figure 5.1: Positive norms by number of direct and indirect friends, Study 4



The first model included direct and indirect cross-group friendship, ingroup norms, intergroup anxiety, prejudice, positive affect and intention for contact. The measurement model with these variables fitted the data well ($\chi^2(85) = 94.68$, $p = .22$; RMSEA = .028; SRMR = .033; CFI = .993). One important difference with the other studies is that the correlation in this measurement model between ingroup norms about contact and direct cross-group friendship ($r = .43$, $p < .01$) was stronger than the correlation with indirect cross-group friendship ($r = .36$, $p < .01$). Further examination shows that, as can be observed in Figure 5.1, the relation between these variables and ingroup norms was not linear. In both cases, there is an overall positive relation until six cross-group friends, and then an overall negative relation. Because of this, the model included both linear and quadratic components for the influence of cross-group friendship.

The model with these structural relations presented a good fit with the data ($\chi^2(113) = 119.34$, $p = .32$; RMSEA = 0.02; SRMR = .035; CFI = .995), and the results are available in Figure 5.2. Indirect cross-group friendship predicted positive norms significantly ($\beta = .89$, $p = .01$), and there also was a significant

quadratic effect ($\beta = -.75, p < .05$), indicating that the effect of indirect cross-group friendship is less pronounced at higher numbers of indirect friends. The linear and quadratic effects of direct contact on positive ingroup norms were not significant in this model (*linear* $\beta = .43, p = .14$; *quadratic* $\beta = -.13, p = .61$). A previous model showed that there were no significant quadratic effects of intergroup contact on any other variable, so they were only used in the prediction of positive norms. Intergroup anxiety was significantly predicted by direct cross-group friendship ($\beta = -.26, p = .01$) but not by indirect cross-group friendship ($\beta = -.10, p = .33$).

Both prejudice and positive affect were predicted by the mediators in the model. Prejudice was marginally predicted by ingroup norms ($\beta = -.16, p = .10$) and significantly by intergroup anxiety ($\beta = .55, p < .01$). The measure of positive affect was predicted by ingroup norms ($\beta = .35, p < .01$) and by intergroup anxiety ($\beta = -.36, p < .01$) in the expected direction. Indirect contact significantly predicted prejudice ($TE = -.33, p = .01$), but none of the specific indirect effects was statistically significant. When predicting positive affect, the total effect of indirect friendship was also significant ($TE = .40, p = .01$) and only the path via positive norms was significant ($SI = .31, p < .05$).

Direct contact did not have a significant total effect on prejudice ($TE = -.11, p = .33$), but the indirect effect via intergroup anxiety was statistically significant ($SI = -.15, p < .05$). In the case of positive affect, direct contact had a significant total effect ($TE = .53, p < .01$), that was composed of a direct effect ($\beta = .28, p < .01$) and the mediation via intergroup anxiety ($SI = .10, p < .05$).

Intention for contact was only predicted by positive affect ($\beta = .79, p < .01$). Ingroup norms ($\beta = .06, p = .45$) and intergroup anxiety ($\beta = -.06, p = .45$) did not predict intention for contact directly, but did have significant indirect effects on intention for contact via positive affect (*Positive norms* $SI = .27, p < .01$; *Intergroup anxiety* $SI = -.28, p < .01$). Indirect contact also had a significant total effect on intention for contact ($TE = .40, p = .01$), and the only specific indirect effect that was statistically significant was via positive norms and positive affect ($SI = .24, p = .05$). The total effect of direct contact was also significant ($TE = .47, p < .01$), and was also due to the effect on positive affect, both directly ($SI = .22, p < .01$) and by affecting intergroup anxiety ($SI = .08, p < .05$).

Support for immigration

Using a model with support for immigration as dependent variable in place of intention for contact ($\chi^2(133) = 164.89, p < .05$; RMSEA = .041; SRMR = .046; CFI = .978), support for immigration was only predicted by prejudice ($\beta = -.90, p$

Table 5.2: Fit indices for alternative models, Study 4

Model	Inversion	Model Fit
<i>Base Model</i>		
CMAI	IAMC	χ^2 (93) = 122.96, $p < .05$; RMSEA = .048; SRMR = .054; CFI = .978
<i>Alternative Models</i>		
MAIC	CIAM	χ^2 (95) = 106.49, $p = .20$; RMSEA = .029; SRMR = .040; CFI = .992
AICM	MCIA	χ^2 (95) = 170.01, $p < .01$; RMSEA = .075; SRMR = .148; CFI = .946
ICMA	AMCI	χ^2 (93) = 198.96, $p < .01$; RMSEA = .090; SRMR = .136; CFI = .924
ACIM	MICA	χ^2 (95) = 213.69, $p < .01$; RMSEA = .094; SRMR = .171; CFI = .915
ACMI	IMCA	χ^2 (93) = 227.61, $p < .01$; RMSEA = .101; SRMR = .183; CFI = .903
AIMC	CMIA	χ^2 (95) = 136.00, $p < .01$; RMSEA = .055; SRMR = .065; CFI = .970
AMIC	CIMA	χ^2 (95) = 163.21, $p < .01$; RMSEA = .071; SRMR = .072; CFI = .951
CAIM	MIAC	χ^2 (95) = 115.41, $p = .08$; RMSEA = .039; SRMR = .054; CFI = .985
CAMI	IMAC	χ^2 (93) = 157.62, $p < .01$; RMSEA = .070; SRMR = .073; CFI = .952
MCAI	IACM	χ^2 (93) = 166.37, $p < .01$; RMSEA = .075; SRMR = .154; CFI = .947
MACI	ICAM	χ^2 (93) = 179.82, $p < .01$; RMSEA = .081; SRMR = .125; CFI = .937

Note: CMAI stands for *Contact, Mediators, Attitudes and Intention* for contact.

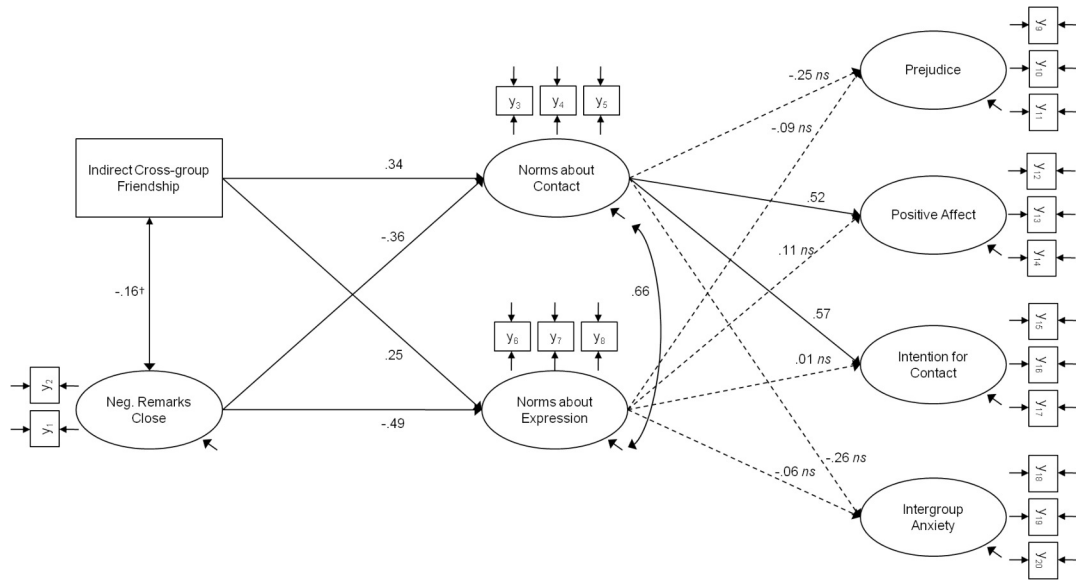
Norms about contact and norms about the expression of prejudice

A confirmatory factor analysis for the items of norms about contact and norms about expressing prejudice using two factors provided a good fit to the data (χ^2 (40) = 56.71, $p < .05$; RMSEA = .054; SRMR = .049; CFI = .967), and the fit decreased considerably when only one factor was used (χ^2 (41) = 77.13, $p < .01$; RMSEA = .079; SRMR = .051; CFI = .929; *corrected* $\Delta\chi^2$ (1) = 13.81, $p < .001$; Δ CFI = .038).

The model presented in Figure 5.3 evaluated the relations between contact norms and prejudice expression norms with several outcomes, as well as different predictors. The model provided an acceptable fit to the data (χ^2 (203) = 265.24, $p < .01$; RMSEA = .046; SRMR = .072; CFI = .966), and supported the hypothesis that norms about contact are particularly relevant.

Indirect cross-group friendship predicted norms about contact ($\beta = .34$, $p < .01$) and norms about expressing prejudice ($\beta = .25$, $p < .01$). Exposure to negative remarks by family and friends also had a significant effect on norms about contact ($\beta = -.36$, $p < .01$) and norms about expressing prejudice ($\beta = -.49$, $p < .01$). Perceived discrimination and exposure to negative remarks in the media had no significant effects on ingroup norms. Finally, ingroup norms about contact predicted positive affect ($\beta = .52$, $p < .01$) and intention for contact with outgroup members ($\beta = .57$, $p = .01$), but none of the four outcomes included in the model were predicted by norms about expressing prejudice after controlling for norms

Figure 5.3: SEM Model. Norms about contact and norms about expressing prejudice, Study 4



Note: All paths are significant ($p < .01$) unless indicated otherwise, $^\dagger p < .10$. Negative remarks in the media and perceived discrimination are not included in the diagram because they had no significant effects.

about contact.

Moderation of the effects of ingroup norms

If the measure of ingroup norms does indeed reflect a normative effect, its effect should be stronger in participants with higher levels of identification with the ingroup. The same argument applies for participants with higher levels of authoritarian aggression and lower levels of social independence. In order to test these hypotheses, I ran a series of latent interaction models with ingroup norms, the moderator in question and their interaction, predicting the outcomes included in the study.

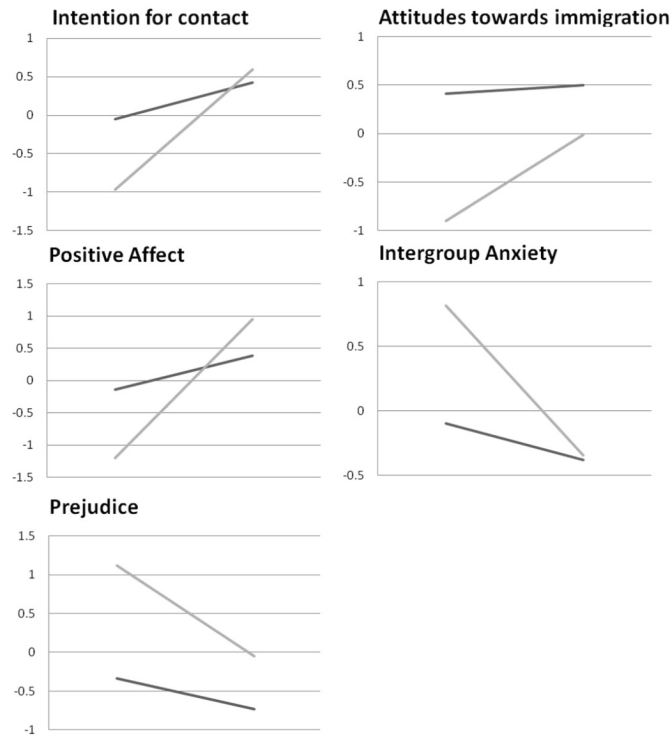
The interaction between norms and identification proved to be the strongest, and it was statistically significant for intention for contact ($b = .25$, $p < .01$), attitudes towards immigration ($b = .18$, $p < .05$), positive affect ($b = .37$, $p < .01$), prejudice ($b = -.18$, $p = .01$), and intergroup anxiety ($b = -.20$, $p = .01$).

In the case of social independence, the moderation was significant for intention for contact ($b = -.54$, $p < .05$), positive affect ($b = -.80$, $p < .05$), and prejudice ($b = .62$, $p < .01$). It was marginally significant for attitudes towards immigration ($b = -.45$, $p = .07$) and not significant for intergroup anxiety ($b = .24$, $p = .32$). The moderation by authoritarian aggression was significant for intention for contact

($b = .28, p < .05$), positive affect ($b = .44, p < .01$), and prejudice ($b = .33, p < .05$).¹

As can be observed in Figures 5.4, 5.5 and 5.6, all these interactions were in the expected direction: the effect of ingroup norms about contact was stronger when participants identified more strongly with being English, reported higher levels of authoritarian aggression or lower levels of social independence.

Figure 5.4: Ingroup norms moderated by identification, Study 4



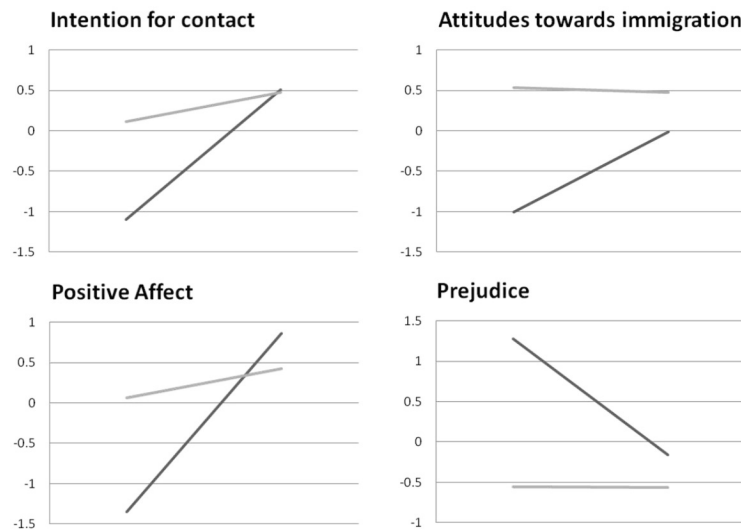
Note: Dark lines represent low ingroup identification, grey lines represent high identification. Higher values in the X-axis represent more positive ingroup norms.

Moderation of the effects of intergroup contact

One of the central topics of this thesis is that the effect of indirect contact is of a normative nature, but the effect of direct contact is not. If this is the case, only

¹Because latent variable interactions require numerical integration, including all three moderators in the same model was not feasible (Muthén & Muthén, 2010, p. 420). A path analysis with the three moderators and their interactions showed that all the interactions between ingroup norms and identification remained significant, with the exception of intergroup anxiety. The moderation by authoritarian aggression was no longer significant for any of the outcomes, and the moderation by social independence was only significant for positive affect, and marginally significant for prejudice.

Figure 5.5: Ingroup norms moderated by social independence, Study 4



Note: Dark lines represent low social independence, grey lines represent high social independence. Higher values in the X-axis represent more positive ingroup norms.

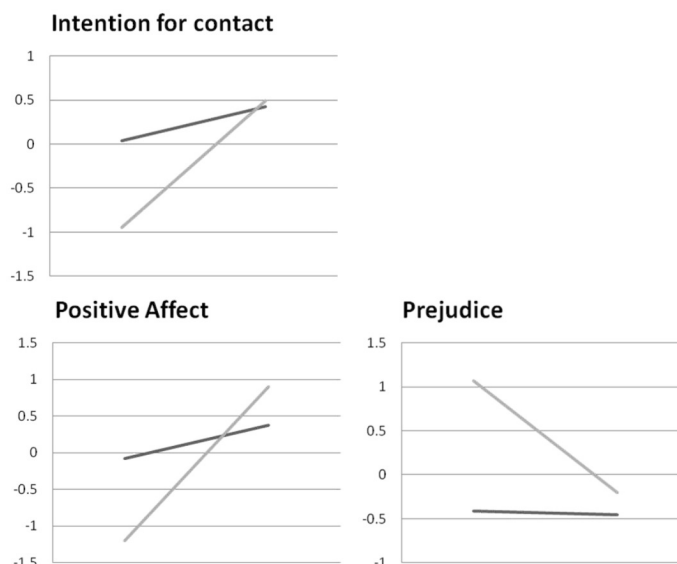
the effect of indirect cross-group friendship should be moderated by the variables that moderated the effect of ingroup norms. In order to evaluate this hypothesis, both direct and indirect cross-group friendship, as well as their interaction with each moderator, were included in the models. Ingroup norms were also included as an outcome in these models, but none of the interactions had significant effects in this variable.

In the models with ingroup identification, the interaction with indirect cross-group friendship was marginally significant when predicting intention for contact ($b = .03, p = .07$) and prejudice ($b = -.04, p = .07$). The interaction between direct contact and identification did not have a statistically significant effect on any of the outcomes.

Similar results were obtained for the moderation by authoritarian aggression. The interaction with indirect cross-group friendship was significant when predicting intention for contact ($b = .05, p < .05$) and positive affect ($b = .06, p = .05$), and the interaction with direct cross-group friendship had no significant effects in the model.

The results for social independence were different. None of the interactions with indirect cross-group friendship was significant, and the interaction with direct cross-group friendship had a significant effect on positive affect ($b = -.07, p < .01$). In this case, the effect of direct contact was more pronounced when participants had lower levels of social independence. As can be observed in Figure 5.7, all the

Figure 5.6: Ingroup norms moderated by authoritarian aggression, Study 4



Note: Dark lines represent low authoritarian aggression, grey lines represent high authoritarian aggression. Higher values in the X-axis represent more positive ingroup norms.

interactions with indirect cross-group friendship were in the expected direction.

5.1.3 Discussion

This study provided further support for the cross-sectional models described in previous chapters, but it also added several interesting results. The results of the basic model were very similar when using the ingroup as a whole instead of ingroup friends in the measure of norms about contact, but now the effect of indirect contact had a significant quadratic component. Participants with high levels of indirect contact reported less positive norms than participants with medium levels. This may reflect that people who have high levels of indirect contact do realise that this is uncommon, and thus perceive ingroup norms to be less positive.

Furthermore, the effect of ingroup norms when measured using the ingroup as a whole as a reference group was less strong than in previous studies. The relation with prejudice was only marginally significant, and it did not predict intention for contact. Especially in groups as ample as nations, it seems theoretically consistent that close ingroup members will have a stronger normative influence than the ingroup as a whole.

By adding other potential predictors of ingroup norms, the study was able to

examine the relative importance of indirect cross-group friendship on determining the perception of ingroup norms. As expected, indirect friendship was highly related with the perception of norms even after controlling for the other predictors. It is interesting that along with indirect friendship, it was the exposure to negative remarks by close ingroup members that had a significant effect on norms. This supports the idea that the close relationships within an ingroup are an especially powerful influence on the perception of ingroup norms.

The study also provided support for the focus on intergroup contact when measuring ingroup norms. Even though norms about expressing prejudice and norms about contact were correlated, they proved to be distinct constructs. Furthermore, norms about contact had stronger effects in all of the outcomes considered. Conversely, when controlling for norms about contact, norms about expressing prejudice showed no relation with any of the outcomes. This suggests that the focus on contact provides a better reflection of the perception of what is considered normative for the ingroup regarding their relation with an outgroup.

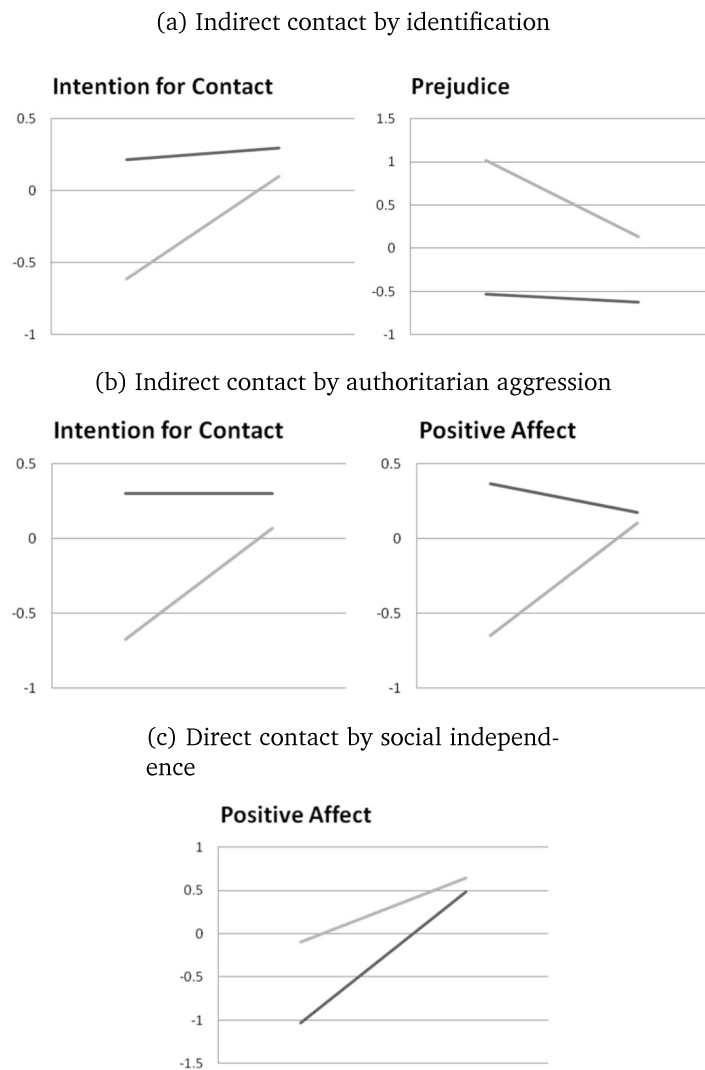
The results also provided support for the measurement of ingroup norms regarding contact as a reflection of a normative influence. The effect of ingroup norms was moderated by identification, and also by authoritarian aggression and social independence. This was also the case, albeit less strongly, for the effect of indirect contact. These results suggest that people who are more identified with being English or have higher levels of authoritarian aggression, are more strongly affected by experiencing indirect contact. This underlines the potential importance of indirect contact, and ingroup norms, in the reduction of prejudice and improvement of intergroup relations in general. Ingroup identification and especially authoritarianism are typically related with more negative intergroup attitudes, and this was also the case in this study. In contrast, the influence of direct contact was not moderated by these variables, and thus an intervention that focuses on indirect contact and ingroup norms may be particularly powerful, because these variables have stronger effects on individuals who are more likely to have more negative attitudes in the first place.

As with the previous cross-sectional studies, the models provide only preliminary support for the proposed causal relations. Still, the moderational analysis of ingroup norms about contact and indirect cross-group friendship increase the confidence in a causal relation in the direction that has been hypothesised. It seems less consistent with theory to postulate that the effect of attitudes on norms, or of attitudes on indirect contact, should be moderated by these variables.

Because one of the main objectives of this study was to examine the moderation of the effect of ingroup norms, the scale used in the questionnaire referred to the ingroup as a whole rather than ingroup friends. Such a measure is more likely to

be moderated by identification, authoritarianism and social independence. In the next chapter (in Study 6), we will see that the moderation by identification still holds when focusing on ingroup friends.

Figure 5.7: Moderation of the effects of intergroup contact, Study 4



Note: Dark lines represent low identification, social independence or authoritarian aggression; grey lines represent high identification, social independence or authoritarian aggression. Higher values in the X-axis represent more intergroup contact.

Chapter 6

Longitudinal studies of intergroup contact

All the studies presented so far have been based in cross-sectional questionnaire applications, and thus have important limitations regarding the attribution of causal relations. This chapter presents two panel studies, one in Norway and one in Chile, in which participants answered two applications of the same questionnaire with several months of separation.

The first panel study, based in Norway, is the continuation of the study presented in Chapter 3, and includes a second application of the questionnaire one year after Study 1. Besides the opportunity to explore if any of the variables predicted changes over the one year period, this study also included a new measurement: the percentage of minority members within each classroom in the second application of the questionnaire. Complementing the multilevel analysis with this variable is of particular interest given the sometimes contradictory results reported in the literature that were discussed in Chapter 1. An increased presence of outgroup members has been associated with less tolerant attitudes (Stein et al., 2000), but also with more tolerant attitudes because it provides opportunity for intergroup contact (Wagner et al., 2006).

The second panel study presented in this chapter is not a continuation of a previous one, but rather a completely new study. In this case, school students completed the second application of the questionnaire after approximately five months. Also, this second Chilean study adds more variables to the ones considered in Norway: prejudice, positive affect, intention for contact and empathy. All of which have had an important role in previous cross-sectional studies. The analysis in both Study 5 and Study 6 will begin by attempting to replicate previous cross-sectional results, and then explore any cross-lagged effects that may be present.

6.1 Study 5: Longitudinal data in Norway

6.1.1 Method

Participants

The second wave of data collection occurred one year after Study 1, and included 1105 participants (51% Female), belonging to 98 different classrooms. Importantly, only 284 students participated in both applications of the questionnaire, representing an attrition rate of 65%. Approximately half of this attrition rate is due to the design of the study. At both time points, only students from grades 8, 9 and 10 completed the questionnaire, so students from grade 10 at Time 1 are not present in Time 2; and there is a new wave of students at Time 2 (from grade 8) that was not present at Time 1.

Procedure

The data collection was performed in the schools and overseen by the teachers, who had a list of the students' names and their personal code. This code was entered in the computers and used to match the cases from Time 1 and Time 2. The questionnaire was identical to that of Study 1.

Measures

All variables were measured the same way as in Study 1, and the reliabilities and descriptive statistics reported here are based on the second wave of participants (see Chapter 3 for the cross-sectional information of Time 1).

Cross-group friendship ($\alpha = .93$) was measured by asking participants how many outgroup friends do they have for each of the three outgroups (Pakistani, Turkish and Indian) and for boys and girls separately. For each of the items, the scale ranged from 0 to "11 or more". For the analyses, the six items were combined to form a single indicator.

Indirect cross-group friendship was measured by asking participants how many of their ethnic Norwegian friends had friends from another ethnic group. Participants simply wrote the number of indirect friends in the questionnaire, and responses varied from 0 to 100 (19 cases with numbers larger than 100 were recoded as missing data).

Intergroup anxiety ($\alpha = .95$) was measured with two items (1) "nervous" and (2) "confident" for each of the three outgroups. For the SEM analysis, two indicators were formed by averaging the responses for the three outgroups on each of the items (*nervous* $\alpha = .96$, *confident* $\alpha = .97$).

Ingroup norms about contact ($\alpha = .64$) was measured with the same three items as in Study 1. Again, the reliability of all three items was not very good, but the reliability of the two negative items was adequate ($\alpha = .80$). Consistent with the analysis in Study 1, I added a correlation between the error terms of these two negatively worded items for the SEM models.

Attitudes ($\alpha = .96$) were also measured by asking about the three outgroups and boys and girls separately. The three indicators using the average for boys and girls for each of the outgroup also showed a good reliability (*Turks* $\alpha = .92$, *Pakistani* $\alpha = .93$, *Indian* $\alpha = .92$). Attitudes towards each of the outgroups were similar, but slightly less positive for Pakistanis (*Turks* $M = 6.00$, $S.D. = 2.95$; *Pakistani* $M = 5.54$, $S.D. = 2.99$; *Indian* $M = 5.79$, $S.D. = 3.00$).

Minority percentage was measured based by coding the names of the students in each classroom¹, and varied between 0% and 83%; $M = 20.8$, $S.D. = 18.0$.

6.1.2 Cross-sectional results

One-level SEM

The means, standard deviations, and the correlations between the variables included in this study are presented in Table 6.1. The levels of cross-group friendship in this sample were slightly higher than in Study 1. Sixty-six percent of the participants reported having at least one cross-group friend, and 90% reported having at least one indirect cross-group friend. As in study 1, both direct and indirect cross-group friendship were not normally distributed, so all the analyses used a logarithmic transformation. The average levels of intergroup anxiety, norms against contact and attitudes towards ethnic minorities were very similar to those reported in Time 1. In general, attitudes towards ethnic minorities were slightly below the middle point of the scale. The correlations between the variables also showed a similar pattern to the one observed in the first application.

The first analysis attempted to replicate the one-level model presented in Study 1. The measurement model provided an acceptable fit with the data ($\chi^2(26) = 70.26$, $p < .01$; $RMSEA = .040$; $SRMR = .022$; $CFI = .986$), and the one-level cross-sectional model tested in Study 1 was successfully replicated using the data from Time 2, and can be observed in Figure 6.1. The model showed a good fit with the data ($\chi^2(27) = 70.57$, $p < .01$; $RMSEA = .039$; $SRMR = .022$; $CFI = .986$), and the relations between the latent variables was consistent with previous results.

¹The coding was done only by one research assistant, so it is not possible to assess its reliability. But the names of the students do provide a clear indication of their ethnic background, at least in terms of them being ethnic Norwegian or not.

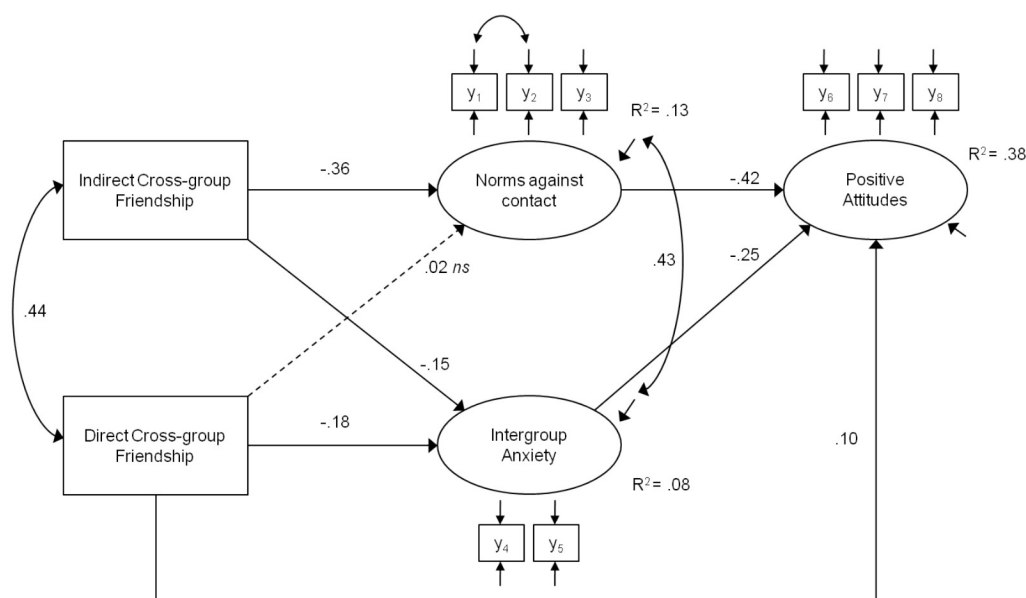
Table 6.1: Means, S.D. and correlations for Time 2, Study 5

	N	Range	M	S.D.	DF	IF	IGA	NOR	ATT
Direct friendship (DF)	926	0-66	5.2	9.3	-	.44	-.25	-.14	.22
Indirect friendship (IF)	827	0-100	9.7	15.9		-	-.23	-.37	.24
Intergroup Anxiety (IGA)	996	1-7	3.9	1.6			-	.47	-.47
Norms against contact (NOR)	1030	1-7	2.8	1.3				-	-.56
Positive attitudes (ATT)	974	0-10	4.8	2.8					-

Note: All paths are significant ($p < .01$).

Indirect cross-group friendship had a significant effect on attitudes ($TE = .19$, $p < .01$), mainly by affecting ingroup norms ($SI = .15$, $p < .01$) but also via intergroup anxiety ($SI = .04$, $p < .01$). As in Study 1, the effect of direct friendship on positive attitudes was slightly weaker ($TE = .14$, $p < .01$), and was only partially mediated by intergroup anxiety ($SI = .05$, $p < .01$; $DE = .10$, $p < .01$). Direct cross-group friendship did not affect ingroup norms ($\beta = .02$, $p = .74$), and both ingroup norms and intergroup anxiety predicted positive attitudes towards ethnic minority members expected direction ($\beta = -.25$, $p < .01$ for intergroup anxiety; $\beta = -.42$, $p < .01$ for ingroup norms). The model explained 38% of the variance of attitudes towards ethnic minorities.

Figure 6.1: Replication of one-level SEM Model, Study 5



Note: All paths are significant ($p < .01$) unless indicated otherwise.

Replication of multilevel SEM

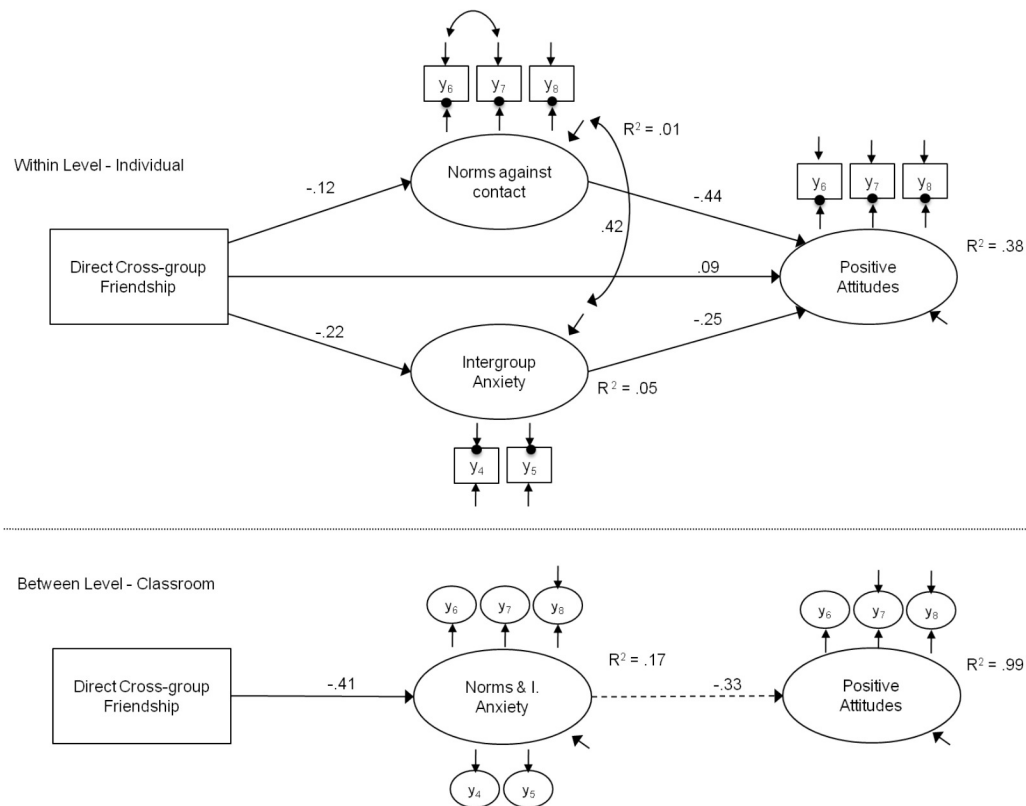
An important consideration regarding the replication of the multilevel analysis in Study 1 is that ingroup norms, intergroup anxiety and attitudes towards ethnic minorities had considerably lower intra-class correlations (ICC). The measurement model only converged when the factor loadings were restricted to be equal at the between and within level, and this time including the positively worded item of ingroup norms did not worsen the model fit. This measurement model had an acceptable fit with the data, though the fit at the between level was lower compared to Study 1 ($\chi^2(45) = 97.69, p < .01$; RMSEA = .034; SRMR_{Within} = .019; SRMR_{Between} = .168; CFI = .987).

Based on this measurement model, the intra-class correlations of the latent variables were ICC = .058 for ingroup norms, ICC = .041 for intergroup anxiety and ICC = .038 for attitudes towards ethnic minorities. The correlation between ingroup norms and intergroup anxiety at the between level was $r = .99$, which created convergence problems when trying to evaluate the same multilevel model used in Study 1. A model in which the indicators for intergroup anxiety and norms were affected by the same latent at the between level did converge normally, and also showed an acceptable fit with the data ($\chi^2(51) = 167.09, p < .01$; RMSEA = .050; SRMR_{Within} = .026; SRMR_{Between} = .189; CFI = .971). The results of the model can be observed in Figure 6.2.

At the individual level, direct cross-group friendship had a significant effect of intergroup anxiety ($\beta = -.22, p < .01$), positive attitudes ($\beta = .09, p < .01$), and also on ingroup norms ($\beta = -.12, p < .05$). Both ingroup norms and intergroup anxiety predicted attitudes ($\beta = -.44, p < .01$ for ingroup norms; $\beta = -.25, p < .01$ for intergroup anxiety). At the between level, classrooms with more outgroup friends reported significantly more positive norms and less intergroup anxiety ($\beta = -.41, p < .05$), but the relation between classroom norms/intergroup anxiety and attitudes was not statistically significant ($\beta = -.33, p = .73$). The model explained 38% of the variance of attitudes at the individual, and 99% of the variance between the classrooms.

Given the high correlation between intergroup anxiety and ingroup norms in the model from Study 1 ($r = .93$), the use of only one latent variable for these indicators does not change the interpretation of the results in any meaningful way. On the other hand, the significant relation between direct cross-group friendship and ingroup norms at the between level is an important difference. Still, this relation was considerably weaker than with intergroup anxiety, and as we will see, the path from direct contact to norms is only marginally significant when the percentage of minority members in the classroom is included in the models.

Figure 6.2: Replication of multilevel SEM Model, Study 5



Note: All paths are significant ($p < .01$) unless indicated otherwise. Dotted lines represent a non-significant path.

Percentage of minority members in the classroom

Including a measurement of the percentage of minority members in the classroom provides the opportunity to test a key issue regarding intergroup contact research. Namely, the effect that the presence of outgroup members has on the perception of norms and more generally on the attitudes towards the outgroup. As was discussed in Chapter 1, even though the presence of more outgroup members provides opportunities for intergroup contact, it does not guarantee that such contact will occur. Furthermore, if ingroup and outgroup members do not engage in intergroup contact, segregation is all the more salient, and would thus facilitate a negative perception of the norms about intergroup interactions.

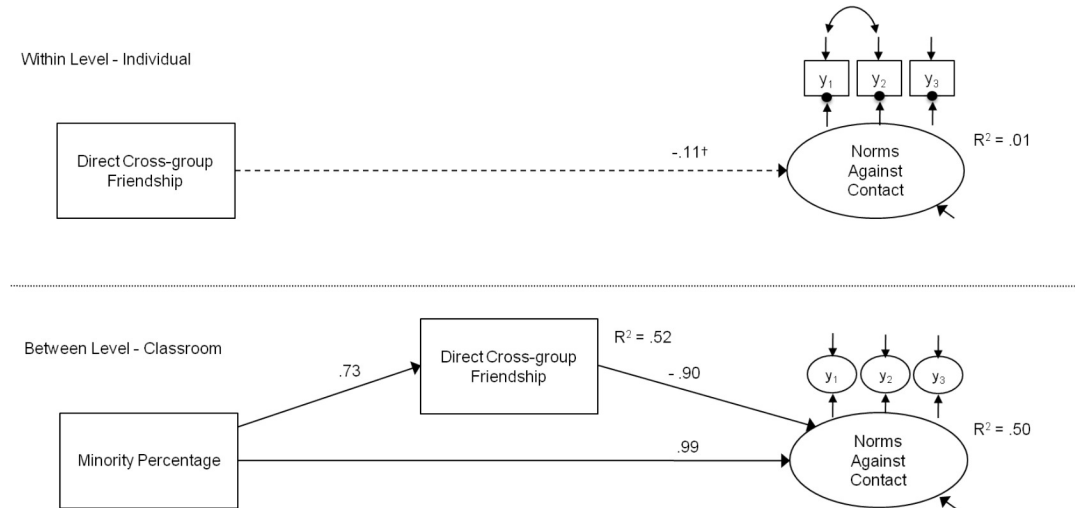
To evaluate this idea, the model included the percentage of minorities in each classroom as a between level predictor of ingroup norms, with direct cross-group friendship as a mediator. At the within level, ingroup norms was regressed on direct cross-group friendship. Direct friendship has a considerable amount of variance at the group level ($ICC = .183$).

The model, available in Figure 6.3, presented an acceptable fit with the data

($\chi^2(5) = 6.14, p = .29$; RMSEA = .015; SRMR_{Within} = .001; SRMR_{Between} = .115; CFI = .998), and was consistent with the theoretical idea just outlined. At the within level, cross-group friendship did not have much of an effect on ingroup norms ($\beta = -.11, p = .09$).

At the between level, direct cross-group friendship acted as a suppressor of the effects of ethnic minority percentage. Having more outgroup members in the classroom was associated with more negative ingroup norms, but the effect was not significant (TE = .34, $p = .20$). More importantly, this total effect was composed by two significant effects in opposite directions. Minority percentage was associated with more cross-group friendship ($\beta = .73, p < .05$), which in turn was associated with less negative ingroup norms ($\beta = -.90, p < .05$). By increasing direct cross-group friendship, minority percentage predicted more positive ingroup norms (IE = -.66, $p < .05$). On the other hand, when minority percentage was not associated with more direct cross-group friendship, it was predictive of higher levels of ingroup norms against contact ($\beta = .99, p < .05$). The model explained 50% of the variance between classrooms in the perception of ingroup norms.

Figure 6.3: ML-SEM for minority percentage in the classrooms, Study 5



Note: All paths are significant ($p < .01$) unless indicated otherwise, $^\dagger p < .10$.

The same model was repeated using intergroup anxiety and attitudes towards ethnic minorities as the dependent variable. When using intergroup anxiety, the model provided a good fit with the data ($\chi^2(2) = 5.11, p = .08$; RMSEA = .039; SRMR_{Within} = .001; SRMR_{Between} = .045; CFI = .996), but the relations with minority percentage and direct cross-group friendship were different. At the within level, direct cross-group friendship did predict lower levels of intergroup anxiety ($\beta = -.24, p < .01$), and at the between level, neither direct cross-group friendship ($\beta = -.67, p = .11$) nor minority percentage were significantly related

with intergroup anxiety ($\beta = -.08, p = .87$).

When using attitudes towards ethnic minorities as the dependent variable, the model had a lower fit with the data ($\chi^2(6) = 62.24, p < .01$; RMSEA = .097; SRMR_{Within} = .028; SRMR_{Between} = .113; CFI = .962). Direct cross-group friendship was a significant predictor of attitudes at the within level ($\beta = .20, p < .01$), but not at the between level ($\beta = .75, p = .66$). The direct effect of minority percentage on attitudes was also not significant ($\beta = -.25, p = .78$).

6.1.3 Longitudinal results

The longitudinal analyses were performed using the complete dataset of 1644 cases (823 at Time 1, 1105 at Time 2, and 284 with responses at both time points) and FIML estimation for missing data (Little & Rubin, 2002; Acock, 2005). As with the cross-sectional analyses, ingroup norms were measured with three indicators (correlating the errors of the two negative items), intergroup anxiety with two and attitudes with three. Direct and indirect contact were treated as manifest variables.

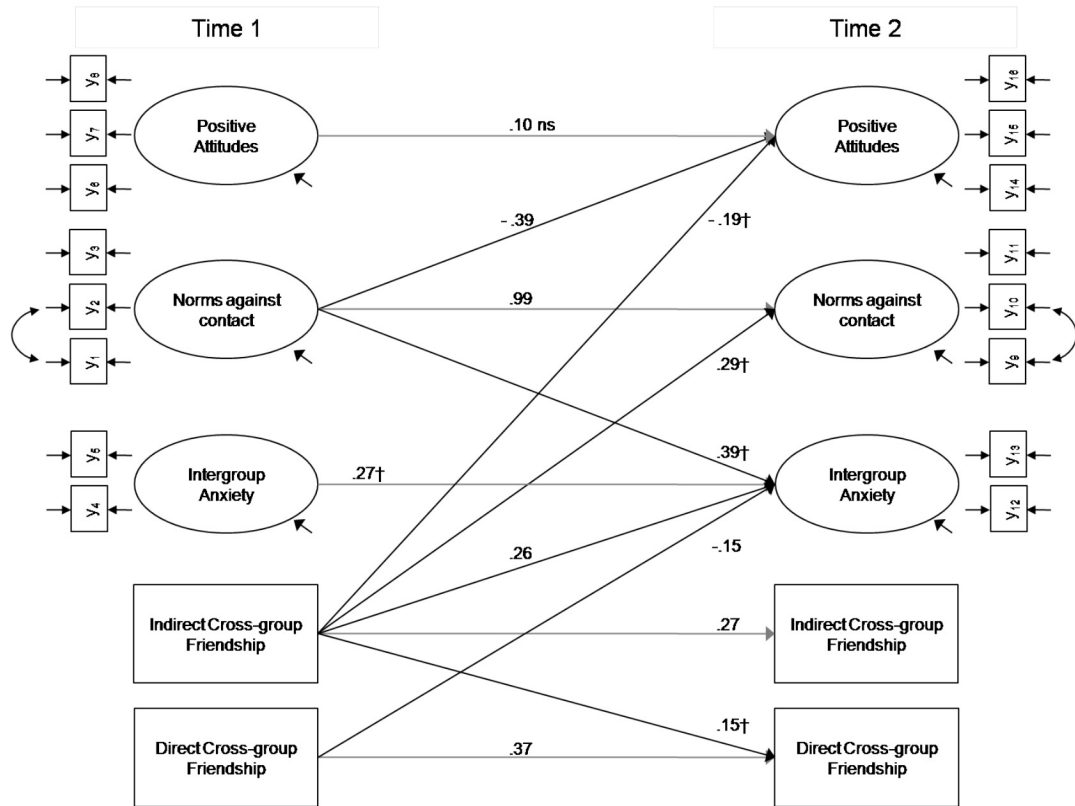
The measurement model with only configural invariance and correlated error terms presented a good fit with the data ($\chi^2(127) = 236.22, p < .01$; RMSEA = .023; SRMR = .035; CFI = .984), and constraining the factor loadings and error correlations to be equal across time points did not reduce the model fit considerably ($\chi^2(135) = 268.04, p < .01$; RMSEA = .024; SRMR = .035; CFI = .980; *corrected* $\Delta\chi^2(8) = 31.67, p < .01$; $\Delta\text{CFI} = .004$), suggesting that the measurement of these variables was stable across the two time points. All subsequent analyses will use this constrained model.

The first model included positive attitudes, ingroup norms, intergroup anxiety and direct and indirect cross-group friendship at both time points, and the structural part of the model was saturated so that each variable at Time 2 was predicted by all the variables at Time 1. This model fitted the data well ($\chi^2(129) = 254.26, p < .01$; RMSEA = .024; SRMR = .035; CFI = .981), and can be observed in Figure 6.4. All the variables at Time 1 were significant predictors of their values at Time 2, with the exception of positive attitudes ($\beta = .10, p = .34$).

Ingroup norms at Time 1 significantly predicted positive attitudes at Time 2 ($\beta = -.39, p < .01$) and was a marginally significant predictor of intergroup anxiety at Time 2 ($\beta = .39, p = .07$). Indirect cross-group friendship, on the other hand, predicted more direct cross-group friendship at Time 2 ($\beta = .15, p = .06$), but otherwise had the opposite effect to what was expected, even though some of the effects were marginally significant. Having more indirect cross-group friends at Time 1 was predictive of less positive attitudes ($\beta = -.19, p = .07$), more negative

norms ($\beta = .29, p = .08$) and more intergroup anxiety ($\beta = .26, p < .05$) at Time 2. Finally, direct cross-group friendship had a significant effect on reduced intergroup anxiety at time 2 ($\beta = -.15, p < .05$).

Figure 6.4: Longitudinal SEM analysis, Study 5



Note: All paths are significant ($p < .01$) unless indicated otherwise, † $p < .10$.

A closer look at cross-group friendship effects

Because the previous model includes all variables at Time 1 and Time 2, the cross-lagged effects of extended and direct contact do not provide a complete representation of their causal relations. In particular, the unexpected negative effects of indirect friendship may due to the inclusion of ingroup norms and intergroup anxiety as Time 1 predictors. As can be observed in Table 2, the correlations between indirect cross-group friendship at Time 1 and norms, intergroup anxiety and attitudes at Time 2 are all in the expected direction.

The next model includes all regressions that were present in model 1, but instead of correlating all the variables at Time 1, it incorporates the usual cross-sectional structural relations. That is, attitudes at Time 1 were predicted by ingroup norms, intergroup anxiety, direct contact and indirect contact at Time 1, and ingroup norms and intergroup anxiety were regressed on direct and indir-

Table 6.2: Longitudinal correlations, Study 5

		<i>Time 2</i>				
		DF	IF	IGA	NOR	ATT
<i>Time 1</i>	Direct friendship (DF)	(.42)	.29	-.17	-.19†	.18
	Indirect friendship (IF)	.29	(.43)	-.04 <i>ns</i>	-.17†	.10 <i>ns</i>
	Intergroup Anxiety (IGA)	-.12 <i>ns</i>	-.24	(.40)	.36	-.34
	Norms against contact (NOR)	-.08 <i>ns</i>	-.40	.39	(.76)	-.44
	Positive attitudes (ATT)	.08 <i>ns</i>	.20	-.20	-.36	(.34)

Note: Correlations are significant ($p < .01$) unless indicated otherwise. † $p < .10$

ect contact at Time 1. This model is mathematically equivalent to the first one (the model fit and the cross-lagged effects are the same), but assuming the cross-sectional causal relations allows to decompose direct and indirect effects, which will provide a more complete picture of the causal relations between cross-group friendship and the attitudinal measures.

In the case of indirect cross-group friendship, the total effect on attitudes at Time 2 was not significant ($TE = .02$, $p = .77$), but this is because its direct and indirect effects cancelled each other. Having more indirect cross-group friendship at Time 1 was indirectly associated with more positive attitudes at Time 2 ($IE = .22$, $p < .01$), mainly because of an improvement on the perception of norms at Time 1 ($SI = .17$, $p = .06$). On the other hand, participants who had more indirect contact *without* changing their perception of ingroup norms at Time 1, experienced a decrease in their positive attitudes towards ethnic minorities in Time 2 ($DE = -.19$, $p = .07$).

The same occurred with the effect of indirect cross-group friendship on intergroup anxiety at Time 2 ($TE = .05$, $p = .50$; $IE = -.20$, $p < .01$; $DE = .26$, $p < .05$) and on ingroup norms at Time 2 ($TE = -.10$, $p = .42$; $IE = -.38$, $p < .01$; $DE = .29$, $p = .08$). Direct cross-group friendship had a significant total effect on attitudes ($TE = .16$, $p < .05$), but no particular indirect effect was statistically significant.

6.1.4 Discussion

The objective of this study was to replicate the results of Study 1, explore the effects of minority percentage in the classroom, and explore any longitudinal effects. Even though there were a few differences in the cross-sectional results of this study with those of Study 1, the main ideas were supported. The results of the one-level analysis were virtually identical to those of Study 1.

The main difference in the multilevel replication was the lower intra-class correlation in the attitudinal measures. It should be noted that most students did not belong to the same classrooms in Time 1 and Time 2, and perhaps the new

classrooms are too recent to have generated the clustering in opinions that was present in Study 1. Aside from this issue, the results of the multilevel replication are very similar to Study 1. Even though the regression between direct cross-group friendship and norms against contact at the individual level was significant in those analyses, it was only marginally significant in the ones that included minority percentage.

The models that tested the influence of the percentage of minority members in each classroom also provided support for a normative perspective regarding intergroup contact. The classrooms that had a larger percentage of minorities reported more tolerant ingroup norms only to the extent that the presence of outgroup members was related to increased intergroup contact. If a higher percentage of minority members in the classroom was not accompanied by increased intergroup contact, ingroup norms were perceived to be more negative. This did not occur with intergroup anxiety or with attitudes towards outgroup members, suggesting that it is indeed a normative effect.

Finally, the longitudinal analysis provided some important insights regarding the causal relations and the development of these variables over time. Firstly, direct and indirect cross-group friendship were related longitudinally, and in a way that was not related to any of the psychological variables considered in the study. This is an important reminder that the relation between direct and indirect contact goes beyond the change in attitudes that they may entail.

People with more indirect contact have a higher chance of developing direct relations with outgroup members simply because those outgroup members are part of their social circle. Conversely, people with more direct contact are more likely to develop more indirect cross-group friendship because they might introduce their cross-group friends to their ingroup friends.

The cross-lagged effects of ingroup norms, on intergroup anxiety and on attitudes, also provide some support for a causal effect of this variable, suggesting that these ingroup norms were internalised. After a year, students who perceived ingroup norms to be more tolerant decreased their levels of intergroup anxiety and improved their attitudes towards ethnic minorities.

The unexpected cross-lagged effects of indirect friendship suggest a complex relation with the psychological measures. Even though indirect contact was cross-sectionally related with more positive norms and less intergroup anxiety, the residual effect of indirect contact was in the opposite direction. There is little information in this study to interpret this result, but it would be interesting to explore the idea that this may be related to subtyping of the ingroup members that are having intergroup contact.

Finally, it should be noted that the longitudinal analysis had a considerable

amount of missing data, particularly of people that responded the questionnaire at Time 1 but were not present at Time 2. Even though the use of FIML is recommended for cases of attrition in panel studies (Little & Rubin, 2002; Muthén, 2010), the coverage for some of the covariances was very low (.10). Using only the participants with data at both time points leads to very similar results, but most of them are not significant.

6.2 Study 6: Longitudinal data in Chile

6.2.1 Method

Participants

The first application of the questionnaire had 698 students (Mean Age = 15.07, S.D. = .86; 65% female), and the second application had 573 students (Mean Age = 15.02, S.D. = .85; 63% female). Five-hundred and seventy students responded to both applications of the questionnaire, representing an attrition rate of 18%.

Procedure

The two applications of the questionnaire were separated by approximately five months. Participants responded to the questionnaire in their classrooms, and the application was overseen by research assistants and the teachers.

Measures²

Direct cross-group friendship was measured with two items: (1) “Do you have any Peruvian friends?” (“Yes” or “No”), and if participants answered “Yes” to the previous question, “How many Peruvian friends do you have?” (from 1 to “6 or more”). These items were combined to form an indicator that ranged from 0 to 6 (or more) cross-group friends.

Indirect cross-group friendship was measured using one item. “How many of your Chilean friends have Peruvian friends?” (from 0 to “6 or more”).

Ingroup norms about contact were measured with three positively worded items; (1) “My Chilean friends would be happy to have Peruvian immigrant friends”, (2) “My Chilean friends are friendly with Peruvian immigrants”, (3) “If I had Peruvian immigrant friends, I think my Chilean friends would be happy to meet them”; and three negatively worded items, (4) “I think that my Chilean friends would not feel comfortable if I meet often with Peruvian immigrants”, (5) “My Chilean friends

²All items reported here have been translated from the original Spanish.

would not like it if I had close Peruvian immigrant friends”, (6) “I think that my Chilean friends would think it’s weird if I spend my free time with Peruvian immigrants”, using a scale from 1, “disagree strongly”; to 5, “agree strongly”. Both negative and positive norms formed a reliable scale (Positive norms: $\alpha_{\text{Time } 1} = .81$, $\alpha_{\text{Time } 2} = .80$; Negative norms: $\alpha_{\text{Time } 1} = .82$, $\alpha_{\text{Time } 2} = .82$). Only positive norms were used for the SEM analyses reported here, and the three items were used as indicators.

Intergroup anxiety ($\alpha_{\text{Time } 1} = .75$, $\alpha_{\text{Time } 2} = .77$) was measured by asking participants how would they feel if they had to interact with a group of Peruvian immigrants: (1) “Tense”, (2) “Threatened”, (3) “Secure”, (4) “Uncomfortable”, (5) “Welcomed”, and (6) “Confident”, using a scale from 1, “not at all”; to 5, “very much”. For the SEM analyses, three parcels were formed: items 1 and 3, items 2 and 4, and items 5 and 6.

Empathy ($\alpha_{\text{Time } 1} = .87$, $\alpha_{\text{Time } 2} = .89$) was measured by six items: (1) “I try to understand the point of view of Peruvians”, (2) “I try to see the things that Peruvian immigrants live from their perspective”, (3) “I try to put myself in the shoes of Peruvian immigrants”, (4) “Sometimes I think how Peruvian immigrants are feeling”, (5) “I can easily imagine the things that Peruvian immigrants have had to go through”, (6) “I empathise with the life situation of Peruvian immigrants”. Participants responded using a scale from 1, “disagree strongly”; to 5, “agree strongly”. For the SEM analyses, three parcels were formed: items 2 and 5, items 1 and 6, and items 3 and 4.

Positive affect ($\alpha_{\text{Time } 1} = .87$, $\alpha_{\text{Time } 2} = .87$) was measured with three items: (1) “How much do you like Peruvian immigrants?”, (2) “How much do you admire Peruvian immigrants?”, and (3) “How much do you trust Peruvian immigrants?”, from 1, “not at all”; to 5, “very much”. The three indicators were used for the SEM analyses.

Prejudice ($\alpha_{\text{Time } 1} = .73$, $\alpha_{\text{Time } 2} = .77$) was measured using five items: (1) “I would be bothered if most of my classmates were Peruvians”, (2) “Sometimes I think this country would be better off if there were less Peruvians”, (3) “The problems of Peruvians nowadays are due to the way they are”, (4) “I would be uncomfortable if I had a Peruvian teacher or boss”, and (5) “I would feel uncomfortable if a Peruvian sat next to me in the bus”. Participants responded using a scale from 1, “disagree strongly”; to 5, “agree strongly”. For the SEM analyses, three parcels were formed: items 1 and 4, items 3 and 5, and item 2.

Intention for contact ($\alpha_{\text{Time } 1} = .85$, $\alpha_{\text{Time } 2} = .89$) with Peruvian immigrants was measured with the following items: (1) “I would be happy to have the opportunity to meet frequently with Peruvian immigrants”, (2) “If I had the chance, I would be happy to have a Peruvian immigrant as a friend”, and (3) “If I had the

chance, I would be willing to talk about a personal problem I'm worried about with a Peruvian immigrant". Participants responded using a scale from 1, "disagree strongly"; to 5, "agree strongly". The three indicators were used for the SEM analyses.

Ingroup identification ($\alpha_{\text{Time 1}} = .85$) was measured with four items: (1) "I feel very connected with Chileans", (2) "I have a lot of things in common with Chileans", (3) "Being Chilean is an important part of my identity" and (4) "I feel very identified with Chileans". All indicators were used for the SEM analyses.

6.2.2 Cross-sectional results

The mean, standard deviations, and cross-sectional correlations between the variables included in this study are presented in Table 6.3. At Time 1, 41% of participants reported having at least one direct cross-group friend, and 64% reported having at least one indirect cross-group friend.

Table 6.3: Means, S.D. and cross-sectional correlations, Study 6

	Mean	S.D.	DF	IF	NOR	IGA	EMP	AFF	PRE	ICO
Direct friendship (DF)	1.02 (1.02)	1.49 (1.54)	-	.50	.36	-.36	.29	.34	-.27	.30
Indirect friendship (IF)	1.74 (1.90)	1.89 (1.96)	(.46)	-	.36	-.25	.21	.27	-.20	.26
Positive norms (NOR)	2.39 (2.57)	0.98 (0.91)	(.35)	(.38)	-	-.43	.50	.62	-.46	.63
Intergroup anxiety (IGA)	2.82 (2.75)	0.83 (0.77)	(.40)	(.34)	(.49)	-	-.44	-.64	.52	-.49
Empathy (EMP)	2.75 (2.8)	1.04 (1.02)	(.24)	(.18)	(.47)	(.52)	-	.67	-.61	.61
Positive affect (AFF)	2.79 (3.02)	1.32 (1.37)	(.35)	(.32)	(.66)	(.72)	(.66)	-	-.79	.79
Prejudice (PRE)	2.78 (2.81)	0.92 (0.99)	(.27)	(.23)	(.48)	(.58)	(.62)	(.76)	-	-.68
Intention for contact (ICO)	2.63 (2.71)	1.07 (1.04)	(.33)	(.32)	(.75)	(.61)	(.61)	(.77)	(.65)	-

Note: Values for Time 2 in parenthesis. All correlations are statistically significant ($p < .01$).

Just as in Study 2, the positive and negatively worded items of ingroup norms did not work as one factor ($\chi^2(9) = 495.97, p < .01$; RMSEA = .291; SRMR = .162; CFI = .423). The model with two factors presented a better fit with the data ($\chi^2(8) = 34.93, p < .01$; RMSEA = .073; SRMR = .047; CFI = .968), and the fit was further improved when a correlation between the errors of two positively worded items was added to the model ($\chi^2(7) = 14.85, p = .04$; RMSEA = .042; SRMR = .026; CFI = .991; *corrected* $\Delta\chi^2(1) = 20.59, p < .001$; $\Delta\text{CFI} = .023$). Of the three positively worded items, the two with correlated errors refer to the behaviour of other ingroup members regarding contact with the outgroup, while the third refers to their expected reaction to the participant having outgroup friends. Further analyses showed that only positive norms were affected by indirect contact and had a significant effect on attitudes, so no negative norms were dropped from the analyses.

The measurement model provided an acceptable fit with the data ($\chi^2(143) =$

271.07, $p < .01$; RMSEA = .036; SRMR = .032; CFI = .977). The first model had the same causal structure as the model in Study 4; the effects of intergroup contact on prejudice and positive affect were fully mediated by ingroup norms, intergroup anxiety and empathy, and intention for contact was regressed on prejudice and positive affect, as well as the mediators. The model presented a good fit with the data ($\chi^2(149) = 301.41$, $p < .01$; RMSEA = .039; SRMR = .035; CFI = .972), and is available in Figure 6.5. Contrary to previous results, positive ingroup norms were predicted both by indirect cross-group friendship ($\beta = .24$, $p < .01$) and by direct cross-group friendship ($\beta = .24$, $p < .01$). Intergroup anxiety was only predicted by direct cross-group friendship ($\beta = -.31$, $p < .01$), and empathy was predicted by direct cross-group friendship ($\beta = .24$, $p < .01$) and marginally by indirect cross-group friendship ($\beta = .09$, $p = .06$).

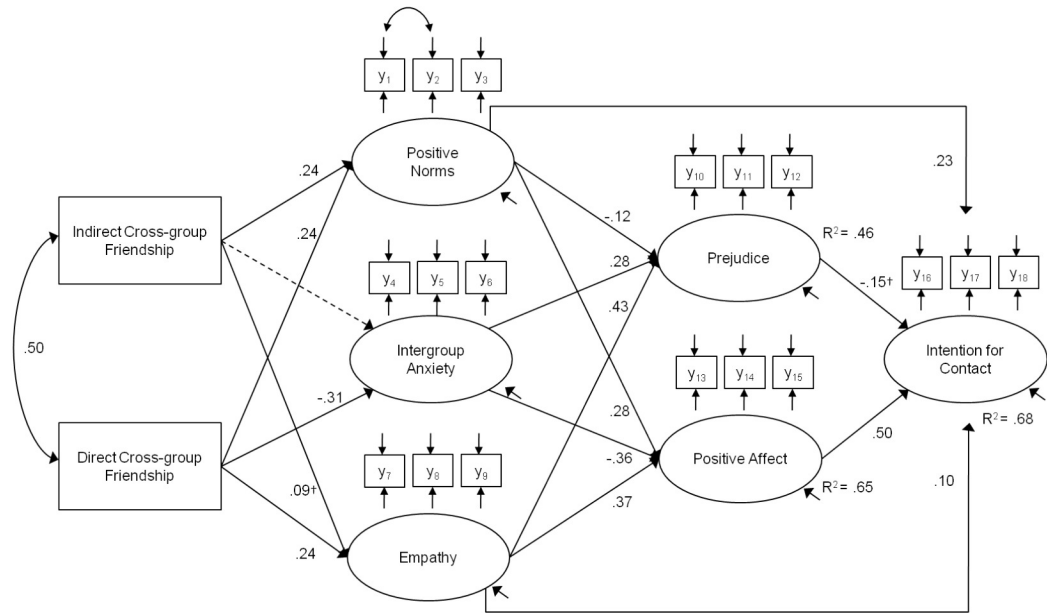
The effect of direct cross-group friendship on prejudice was mediated by empathy and intergroup anxiety (SI = $-.10$, $p < .01$ and SI = $-.09$, $p < .01$ respectively), while the effect of indirect cross-group friendship on prejudice was only significantly mediated by ingroup norms (SI = $-.03$, $p < .05$). In the case of positive affect, the effect of direct cross-group friendship was mediated by ingroup norms, intergroup anxiety and empathy (SI = $.07$, $p < .01$, SI = $.11$, $p < .01$ and SI = $.09$, $p < .01$ respectively), while the effect of indirect contact was only mediated by ingroup norms (SI = $.07$, $p < .01$).

Prejudice was predicted by positive ingroup norms ($\beta = -.12$, $p < .05$), intergroup anxiety ($\beta = .28$, $p < .01$) and empathy ($\beta = -.43$, $p < .01$), and positive affect was also predicted by all three mediators: positive ingroup norms ($\beta = .28$, $p < .01$), intergroup anxiety ($\beta = -.36$, $p < .01$) and empathy ($\beta = .37$, $p < .01$). Finally, intention for contact was predicted by positive affect ($\beta = .50$, $p < .01$), positive ingroup norms ($\beta = .23$, $p < .01$), and less strongly by empathy ($\beta = .10$, $p < .05$) and prejudice ($\beta = -.14$, $p = .06$).

In general, direct cross-group friendship had a stronger effect on attitudes (*Prejudice* TE = $-.22$, $p < .01$; *Positive affect* TE = $.27$, $p < .01$) than indirect cross-group friendship (*Prejudice* TE = $-.09$, $p < .05$; *Positive affect* TE = $.13$, $p < .01$). Similarly, the total effect of direct cross-group friendship on intention for contact (TE = $.23$, $p < .01$) was stronger than the total effect of indirect cross-group friendship (TE = $.14$, $p < .01$). The model explained 46% of the variance of prejudice, 65% of the variance of positive affect and 68% of the variance of intention for contact.

The same model was repeated with the data from Time 2. The model fitted the data well ($\chi^2(149) = 265.12$, $p < .01$; RMSEA = .037; SRMR = .034; CFI = .976) and showed similar relations between the variables, with a few exceptions. The relation between prejudice and intention for contact, that was marginal using

Figure 6.5: Cross-sectional SEM model for Time 1, Study 6



Note: All paths are significant ($p < .01$) unless indicated otherwise, † $p < .10$.

the data from Time 1, was now not significant ($\beta = -.14, p = .13$), indirect cross-group friendship now had a significant effect on intergroup anxiety ($\beta = -.20, p < .01$), and positive norms were now the main predictor of intention for contact (Positive norms $\beta = .42, p < .01$; Affect $\beta = .25, p < .05$).

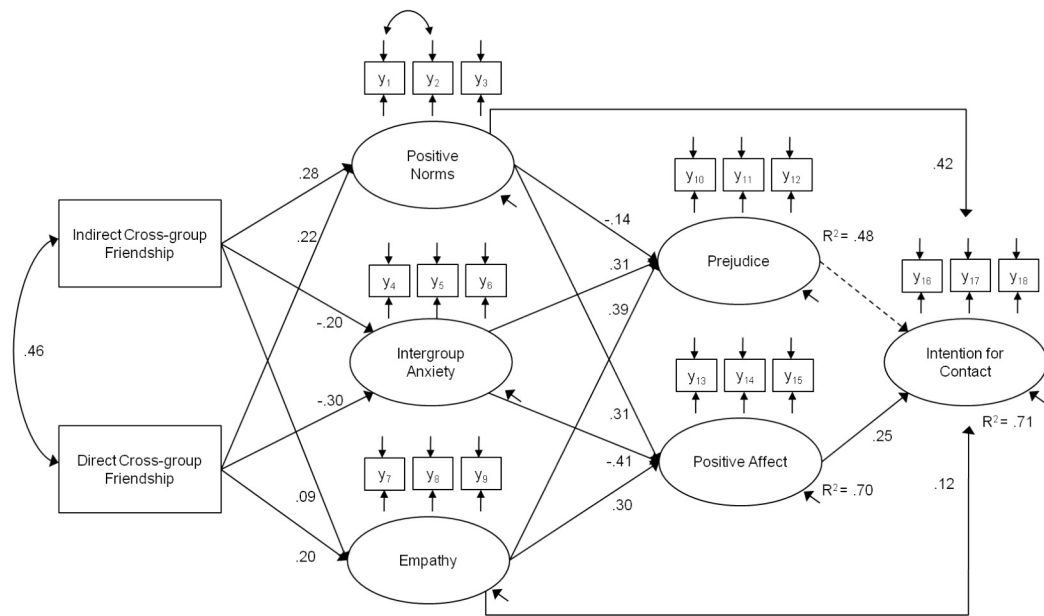
Once again, direct cross-group friendship had a stronger total effect on attitudes (Prejudice TE = $-.20, p < .01$; Positive affect TE = $.26, p < .01$) than indirect cross-group friendship (Prejudice TE = $-.14, p < .01$; Positive affect TE = $.20, p < .01$). The total effect of direct cross-group friendship on intention for contact (TE = $.24, p < .01$) was now only slightly stronger than the total effect of indirect cross-group friendship (TE = $.21, p < .01$). The results of this model can be observed in Figure 6.6.

Intergroup contact and ingroup norms

Given the unusual results regarding the relations between intergroup contact and ingroup norms, I ran some further analyses with similar results to those of Study 4: indirect cross-group friendship did not have a linear relation with ingroup norms. As can be observed in Figure 6.7, ingroup norms are perceived as less positive by the participants that reported six or more indirect outgroup friends, and this does not occur with direct cross-group friendship.

Furthermore, there is a considerably larger number of students that reported having six or more indirect cross-group friends compared to those that reported having six or more direct cross-group friends. This tendency is likely to have a

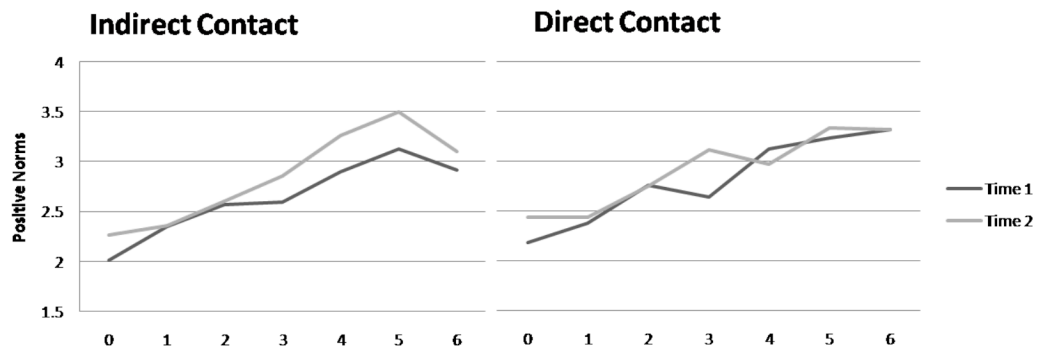
Figure 6.6: Cross-sectional SEM model for Time 2, Study 6



Note: All paths are significant ($p < .01$) unless indicated otherwise, † $p < .10$.

strong influence in the estimation of the linear and quadratic effects, and more importantly, to greatly reduce the linear effect of indirect contact when the quadratic component is not considered in the analysis.

Figure 6.7: Positive norms by number of direct and indirect friends, Study 6



When the quadratic effects for intergroup contact were added to the models, the results are more consistent with the previous studies. Using the data from Time 1, the effect of indirect contact on norms had significant linear and quadratic components (*Linear* $\beta = .69, p < .01$; *quadratic* $\beta = -.48, p < .01$), and the effect of direct contact was no longer significant (*Linear* $\beta = .20, p = .11$; *quadratic* $\beta = .06, p = .63$). With the addition of the quadratic effects, the previously marginally significant effect of indirect contact on empathy was now significant (*Linear* $\beta = .53, p < .01$; *quadratic* $\beta = -.47, p < .01$).

At Time 2, the inclusion of the quadratic effects had similar consequences. Only the linear effect of indirect cross-group friendship was significant (*Linear* $\beta = .51, p < .01$; *quadratic* $\beta = -.25, p = .11$) and direct contact no longer had a significant effect (*Linear* $\beta = .12, p = .35$; *quadratic* $\beta = .11, p = .40$). This time, the paths from contact to empathy also changed. Empathy was predicted by indirect cross-group friendship (*Linear* $\beta = .36, p < .05$; *quadratic* $\beta = -.27, p = .06$) but no longer by direct contact (*Linear* $\beta = .15, p = .27$; *quadratic* $\beta = .06, p = .66$).

6.2.3 Longitudinal results

The measurement model with correlated error terms using the data for Time 1 and Time 2 had a good fit with the data ($\chi^2 (604) = 916.17, p < .01$; RMSEA = .028; SRMR = .034; CFI = .973), and the fit did not diminish considerably when the factor loadings and the error correlation of the indicators of positive norms were restricted to be equal across time points ($\chi^2 (623) = 985.23, p < .01$; RMSEA = .030; SRMR = .038; CFI = .968; *corrected* $\Delta\chi^2 (19) = 70.28, p < .01$; $\Delta\text{CFI} = .005$), so this measurement invariance was maintained for the other analyses. The structural part of the model was saturated so that each variable at Time 2 was predicted by all the variables at Time 1. The model presented a good fit with the data ($\chi^2 (623) = 998.44, p < .01$; RMSEA = .030; SRMR = .038; CFI = .969), and the results are available in Figure 6.8 on page 117.

All variables at Time 1 significantly predicted their values at Time 2. The most stable variables were positive affect ($\beta = .50, p < .01$) and direct cross-group friendship ($\beta = .49, p < .01$). Intention for contact with Peruvian immigrants had cross-lagged effects on several of the variables considered in the study. Having more intention for contact at Time 1 had a marginal effect on positive affect ($\beta = .13, p = .09$), and significantly predicted more positive ingroup norms ($\beta = .27, p < .05$), less intergroup anxiety ($\beta = -.23, p < .05$), and more empathy ($\beta = .28, p < .01$) at Time 2.

Direct cross-group friendship at Time 1 predicted lower intergroup anxiety ($\beta = -.13, p < .05$) and more indirect cross-group friends ($\beta = .22, p < .01$) at Time 2. Having more indirect cross-group friends at Time 1 also predicted having more direct contact at Time 2 ($\beta = .11, p = .05$). Finally, positive norms *negatively* predicted the number of cross-group friends at Time 2 ($\beta = -.14, p < .05$), despite being positively correlated ($r = .15, p < .01$), as can be observed in Table 6.4.

This latter result reflects the complete opposite effect to what was hypothesised. Instead of increasing cross-group friendship, participants with a more tolerant perception of norms about contact seem to decrease the number of outgroup

Table 6.4: Longitudinal correlations, Study 6

		<i>Time 2</i>							
		DF	IF	NOR	IGA	EMP	AFF	PRE	ICO
<i>Time 1</i>	Direct friendship (DF)	(.54)	.42	.29	-.33	.22	.34	-.18	.31
	Indirect friendship (IF)	.35	(.48)	.19	-.21	.20	.26	-.11	.22
	Positive norms (NOR)	.15	.24	(.48)	-.36	.46	.50	-.39	.49
	Intergroup anxiety (IGA)	-.21	-.18	-.34	(.56)	-.39	-.52	.40	-.45
	Empathy (EMP)	.19	.14	.35	-.35	(.65)	.53	-.42	.47
	Positive affect (AFF)	.26	.22	.46	.48	.55	(.76)	-.57	.61
	Prejudice (PRE)	-.20	-.09	-.33	.40	-.50	-.64	(.61)	-.49
	Intention for contact (ICO)	.22	.22	.48	-.47	.59	.65	-.53	(.65)

Note: All correlations are statistically significant ($p < .05$) with the exception of Prejudice at Time 1 with Indirect cross-group friendship at Time 2 ($p = .09$).

friends in Time 2. As has occurred with other results, the other variables included at Time 1 may be responsible for this effect. Indeed the correlation between ingroup norms at Time 1 and direct friendship at Time 2 is in the expected positive direction ($r = .15$, $p < .05$). On the same line, using a model with only ingroup norms and direct and indirect cross-group friendship ($\chi^2(23) = 28.90$, $p = .18$; RMSEA = .019; SRMR = .021; CFI = .996), positive norms at Time 1 did not predict direct cross-group friendship at Time 2 ($\beta = -.06$, $p = .19$).

Further analyses showed that the negative effect of ingroup norms on direct cross-group friendship only appeared when empathy was added to the previous model ($\chi^2(79) = 113.51$, $p < .01$; RMSEA = .025; SRMR = .031; CFI = .987), suggesting that when positive ingroup norms are not accompanied by empathy towards the outgroup, they predict less intergroup contact in the future ($\beta = -.09$, $p = .07$).

Given that it had considerable effects on the variables at Time 2, I also tested a model without intention for contact ($\chi^2(439) = 741.07$, $p < .01$; RMSEA = .032; SRMR = .040; CFI = .968). In this model, positive ingroup norms at Time 2 were marginally predicted by positive affect at Time 1 ($\beta = .26$, $p = .09$), and empathy at Time 2 was predicted by positive norms at Time 1 ($\beta = .14$, $p < .05$). Using a model specifying the cross-sectional relations at Time 1, positive affect at Time 1 had a significant indirect cross-lagged effect on positive norms, that was mediated by intention for contact (IE = .14, $p = .05$); and positive ingroup norms had a significant indirect cross-lagged effect on empathy (IE = .09, $p < .01$), that was also mediated by intention for contact at Time 1 (SI = .07, $p < .01$).

Moderation by ingroup identification

Because the analyses of Study 4 used a measure of ingroup norms that focused on the ingroup in general, it is of interest to evaluate if identification also moderates the influence of ingroup norms with the usual measurement that focuses on ingroup friends. Furthermore, evaluating this moderation using longitudinal data provides better support for a causal interpretation of the effects of ingroup norms.

In order to test this idea, I performed a series of SEM models with latent interactions in which ingroup norms and ingroup identification at Time 1 predicted each of the outcomes at Time 2, controlling for their values at Time 1. The outcomes considered were direct intergroup contact, empathy, intergroup anxiety, prejudice, positive affect and intention for contact. In the initial analysis, using the four items of ingroup identification, the interaction between ingroup norms and identification had no significant effects on any of the outcomes, but using only the two items that refer to *commonalities* with the ingroup (items 1 and 2), significant results were found for intergroup anxiety and for prejudice. No significant interactions were found when using items 3 and 4, referring to ingroup *centrality*.

Intergroup anxiety at Time 2 was predicted by intergroup anxiety at Time 1 ($b = .46, p < .01$), positive norms ($b = -.14, p < .05$) and by the interaction between ingroup norms and ingroup commonalities ($b = -.16, p < .05$). Ingroup commonalities were only marginally associated with increased levels of intergroup anxiety ($b = .09, p = .09$). Prejudice levels at Time 2 were predicted by prejudice at Time 1 ($b = .51, p < .01$), positive norms ($b = -.16, p < .05$), ingroup commonalities ($b = .20, p < .01$) and the interaction between ingroup norms and commonalities ($b = -.26, p < .05$). As can be observed in Figure 6.9 on page 118, these interactions were in the expected direction. Participants who perceived ingroup norms to be more tolerant regarding contact with Peruvian immigrants reduced their levels of prejudice and intergroup anxiety, and the effect was significantly stronger for participants with high levels of perceived commonalities with their ingroup.

6.2.4 Discussion

The results of this study had both commonalities and disparities with the results obtained in previous research reported in this thesis. Regarding the relation between intergroup contact and ingroup norms, the results were similar to those obtained in Study 4, unveiling a non-linear effect of indirect cross-group friendship. Even though the effect of direct contact was no longer significant when the quadratic effects were considered, the lower levels of positive norms reported by the participants with six or more indirect friends should not be overlooked.

It seems reasonable to hypothesise that people with higher numbers of indirect friends are aware that these relations are unusual, and thus perceive ingroup norms to be less positive. It seems less clear to me if this perception of ingroup norms would undermine the positive effects of indirect contact on attitudes. These participants may consider themselves to belong to a more tolerant subgroup, and thus be less affected by their perception of what most of the ingroup considers appropriate.

The cross-sectional regressions predicting intention for contact with outgroup members have proved to be one of the most stable results throughout the studies, and this study was no exception. Affect, ingroup norms and empathy seem to be the most important predictors of intention for contact, and once again, the effect of intergroup anxiety was not significant. The importance of intention for contact was made apparent in the longitudinal analysis. Participants with more intention for contact at Time 1 increased their levels of positive affect, positive norms and empathy, and decreased their levels of intergroup anxiety.

The results regarding the interaction between ingroup norms and identification also merit some attention. Firstly, they provide some support for the idea of a causal effect of ingroup norms, and the psychological mechanisms that are involved in this process. Individuals who are highly identified with their ingroup seem to be particularly affected by normative processes, which provides a reason to be optimistic regarding interventions that are based on indirect contact and ingroup norms.

It is interesting that only commonalities with the ingroup moderated the effect now that ingroup friends, rather than the ingroup as a whole, were used as the reference group. In contrast, items assessing ingroup centrality strongly moderated the effect of ingroup norms in Study 4. It is possible that the psychological connection between ingroup friends and the ingroup in general is stronger in participants that perceive high commonalities, but there is little information to evaluate this idea. Exploring the relation between individuals' social network and the perception of the ingroup should be a relevant topic for future research.

Still, the study also provided less encouraging results for the theoretical model. As in the Study 5, none of the psychological measures predicted positive changes on the number of outgroup friends. Furthermore, ingroup norms had an unexpected residual effect *decreasing* the amount of direct contact at Time 2. In this case, it was the inclusion of empathy and intergroup anxiety as Time 1 predictors what unveiled the effect. In general, this may be interpreted as a situation where the perception of ingroup norms is not in tune with the personal feelings regarding outgroup members, which would have detrimental consequences for intergroup relations. Most certainly, more research is needed to make any theoretical conclu-

sions out of this result.

6.3 General discussion

The two studies presented in this chapter evaluated the longitudinal effects of direct and indirect contact in two different contexts and over different periods of time: one year in the case of Norway and five months in the case of Chile. Even though there were several differences in the results of these two studies, there were also some commonalities worth underlining in this section.

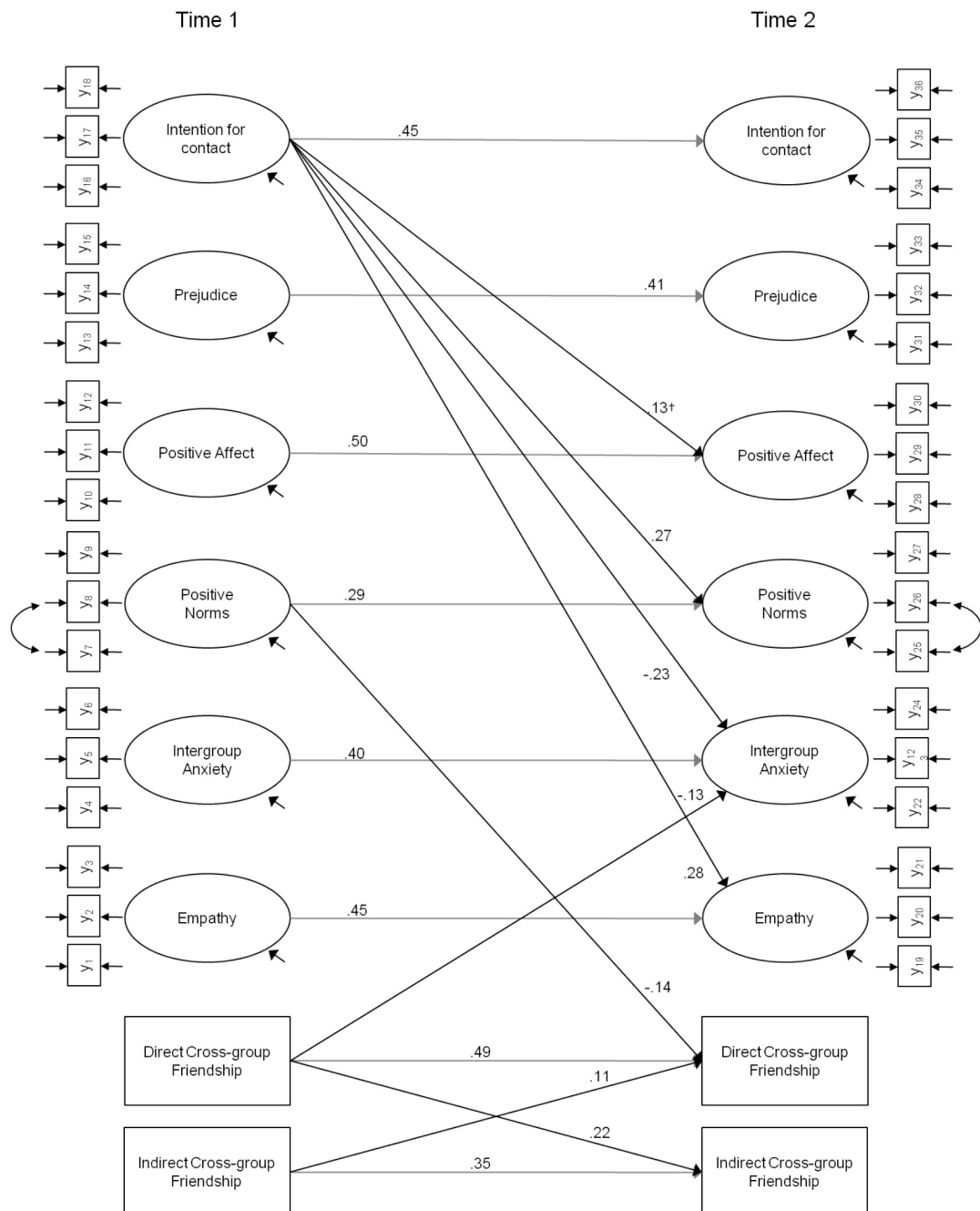
In both studies, indirect cross-group friendship predicted an increased number of direct cross-group friend at Time 2, and ingroup norms also had significant cross-lagged effects on some of the psychological variables. In Study 5, ingroup norms were associated with more tolerant attitudes and less intergroup anxiety at Time 2, and in Study 6 ingroup norms predicted increased levels of empathy via their cross-sectional influence on intention for contact. Furthermore, ingroup norms also reduced intergroup anxiety and prejudice for participants that were highly identified with the ingroup. The fact that ingroup norms had several cross-lagged effects in both studies is particularly important because it provides support for a causal effect of the perception of ingroup norms over time, suggesting that personal attitudes tend adjust in a way that is consistent with the perception of what the ingroup approves or disapproves.

On the other hand, the results regarding the effects of indirect contact were less promising. The causal relation between indirect cross-group friendship and ingroup norms was not supported longitudinally, and indirect contact even had a negative residual effect on the perception of ingroup norms, along with attitudes and intergroup anxiety. A previous longitudinal study by Feddes, Noack & Rutland (2009) also failed to find any longitudinal effects of indirect contact. It seems reasonable that being aware of indirect friends would have an immediate effect on the perception of ingroup norms, and thus any long term effect would be mediated by that first reassessment. But even though the results of these studies are not incompatible with that hypothesis, they provide no support beyond the usual cross-sectional association between indirect contact and ingroup norms.

A similar argument may be advanced for the lack of cross-lagged effects from the psychological variables at Time 1, including intention for contact, in the amount of direct cross-group friends at Time 2. These longitudinal studies were not based on an intervention, and thus it is likely that any influence from attitudes towards Peruvian immigrants, the perception of ingroup norms, or willingness for intergroup contact on engaging in close intergroup interactions had already taken place and was only reflected in the cross-sectional associations between these variables.

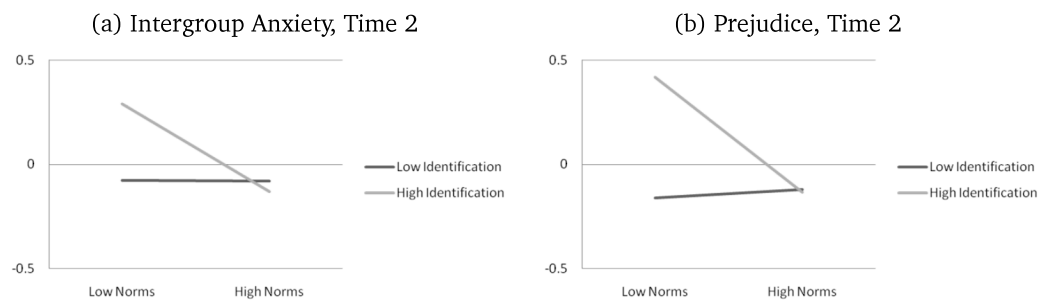
Designs that introduce a situation that may prompt changes in interpersonal relationships at Time 1 may be better suited to evaluate these influences. For example, with an intervention that improves intergroup attitudes, or simply at the start of a period where participants are likely to change their social networks, such as the beginning of secondary school, college or university.

Figure 6.8: Longitudinal SEM analysis, Study 6



Note: All paths are significant ($p < .01$) unless indicated otherwise, † $p < .10$.

Figure 6.9: Longitudinal moderation of the effects of ingroup norms, Study 6



Chapter 7

Experimental evidence: Manipulating contact using videos and predicting intergroup interactions

The studies that have been presented in previous chapters have generally supported the idea that ingroup norms regarding contact with outgroup members are an important mediator of the extended contact effect, and that they contribute in shaping the attitudes towards the outgroup and the intention of interacting with outgroup members.

With two longitudinal studies, chapter 6 provided some support for a causal effect of ingroup norms on attitudinal measures. The longitudinal results regarding a causal effect of indirect contact on the proposed mediators were less clear: once again, the evidence for this part of the model was only correlational. This is also applicable to the literature of indirect contact in general. Even though there is some experimental evidence for the effect, the mediators proposed by Wright et al. (1997) have mostly been evaluated in cross-sectional studies, with the exception of Cameron et al. (2006), who found experimental evidence for a mediation via inclusion of the outgroup in the self.

Based on these considerations, this chapter presents three experiments that examine the effect of indirect intergroup contact on ingroup norms and other mediators, as well as its influence on attitudes and on interactions with outgroup members. Experiments 1 and 2 focused on attitudes towards Asylum Seekers, and participants were exposed to different stories designed to mimic a situation of direct or indirect intergroup contact. In experiment 1 the stories were presented using videos, while in Experiment 2 the stories were presented in text format.

Experiment 3 focused on attitudes towards Muslims, and manipulated indirect contact in a different way: participants were exposed to positive interactions between a ingroup and outgroup members. This *vicarious* intergroup contact can be considered a sub-category of indirect contact, and observing a positive intergroup interaction may have stronger effects than just knowing about it.

Another important topic that has received only partial support in the studies presented so far relates to the influence of indirect contact and ingroup norms on actual behaviour regarding intergroup interactions. The evidence presented has focused on the intention of engaging in cross-group interactions, and the longitudinal analyses presented in the previous chapter provided no support for the idea of a positive effect of ingroup norms that approve of intergroup contact on actual cross-group relationships. In order to evaluate this idea more explicitly, Experiment 3 also included an interaction between the participants and an outgroup confederate.

7.1 Experiment 1: Attitudes towards Asylum Seekers (video version)

Experiments 1 and 2 attempt to completely isolate the effects of direct and indirect intergroup contact in order to provide a better evaluation of the idea that they may rely on different mechanisms to improve intergroup attitudes. Participants in the *direct contact* condition watched two testimonies where Asylum Seekers related their personal stories. In the *indirect contact* condition, the same testimonies were given instead by English people who were friends with the Asylum Seeker that was the focus of the story. The experiment also included a *mixed condition*, in which participants watched one of the videos of the indirect contact condition first, followed by one of the videos of the direct contact condition. Some researchers have hypothesised that the joint use of direct and indirect contact in an intervention may have particularly powerful effects (Pettigrew et al., 2007), and that indirect contact may be a good first step in preparing individuals for direct contact (e.g. Christ et al., 2010; Turner et al., 2007b), and the mixed condition represents an attempt to evaluate these hypotheses. In the *control condition*, participants watched testimonies by ingroup members that were unrelated to the topic of Asylum Seekers.

Even though using these stories for the experimental manipulation is most definitely not the same as intergroup contact, it may provide an adequate proxy for experimental designs. Especially when using videos, participants get to see an outgroup member in a setting that allows to the expression of emotional cues and

individualising information. The use of testimonies also has important practical implications. In the case of Asylum Seekers, many organisations are using this strategy as an attempt improve attitudes and generate awareness about the issues that refugees face in many countries. Experiments 1 and 2 provide a test of the effectiveness of this strategy.

7.1.1 Method

Participants and procedure

Sixty-seven English undergraduates voluntarily took part in the experiment (Mean Age = 21.3 years, S.D. = 4.6; 79% Female), and received £4 for their participation. They were randomly assigned to one of four experimental conditions: *Control Condition* (N = 19), where they watched a video of two English confederates talking about their experiences during their first year at university; *Direct Contact* (N = 16), where they watched a video of two confederates acting as Asylum Seekers; *Indirect Contact* (N = 16), where they watched a video of the two English confederates relating their friendship with an Asylum Seeker; and a *Mixed Condition* (N = 16), where they watched one of the videos of the indirect contact condition and one of the videos of the direct contact condition (see Figure 7.1 for snapshots of the videos). The videos in all conditions consisted of two individual interviews (with one male and one female confederate) that were presented as real testimonies of Asylum Seekers that participants were asked to evaluate so that they could be used for another project.

The text of the interviews, available in the Appendix (on page 177), was designed to have the same content in the *Direct Contact* and *Indirect Contact* conditions. The text focused on providing personalised information about the Asylum Seeker in question, and narrating the story of their escape from their country of origin and their arrival and experiences in the U.K. Even though the stories were fictitious, they were developed based on real testimonies that have been made available by a range of organisations (e.g. www.asylumstories.co.uk). The stories in the *Indirect Contact* condition also included a short description of the relationship between the English character and their Asylum Seeker friend.

In the *Mixed Condition*, all participants watched the *indirect contact* testimony first, followed by the interview from the *direct contact* condition. Half of participants in this condition watched the male English confederate and the female Asylum Seeker confederate, and the other half watched the female English confederate and the male Asylum Seeker confederate.

After watching the videos, participants completed a questionnaire with two parts. The first part was devoted to the videos, and included several questions

that are consistent with the cover story but of no particular interest for the study. The second part consisted of “background” questions where most of the measures of the dependent variables were included. After finishing the questionnaire, participants were thanked and debriefed.

Figure 7.1: Videos shown to participants, Experiment 1



Measures

Perception of ingroup characters. The first part of the questionnaire was devoted to some questions regarding the videos participants had just watched. Of particular interest are: *Typicality of ingroup members* ($\alpha = .78$): “I think that [name of character] is representative of English people in general” (from 1, disagree strongly; to 7, agree strongly); and *closeness to ingroup members* ($\alpha = .75$): “Using the following diagram, how close do you feel to [name of character]?” (6 point scale with progressively overlapping circles)¹.

Intention for Contact ($\alpha = .75$) was measured with three items: (1) “I would be really pleased if I had the chance to meet frequently with asylum seekers”; (2) “If I have the chance, I would be happy to have an asylum seeker friend” (from 1, disagree strongly; to 7, agree strongly); and (3) “Imagine that you had a problem that was worrying you. How likely would it be that you would speak to an asylum seeker about it, if you had the chance?” (from 1, not at all likely; to 7, very likely).

Positive Affect ($\alpha = .80$) was measured with three items: (1) “How much do you like asylum seekers in general?”; (2) “In general, how much do you trust asylum

¹Typicality of ingroup members and closeness to ingroup members only had two items in the *control condition* and the *indirect contact condition*. One for each ingroup character.

seekers?” and (3) “How much do you admire asylum seekers?” (from 1, not at all; to 7, very much).

Prejudice ($\alpha = .86$) was measured with six items: (1) “Most politicians in England care too much about asylum seekers and not enough about the English people in need”; (2) “Over the past few years, asylum seekers have received more benefits than they deserve”; (3) “Asylum seekers get more from this country than they contribute”; (4) “Social services has become less available to English people because of asylum seekers”; (5) “asylum seekers should learn to conform with the rules and norms of British society”; and (6) “Asylum seekers are undermining English culture” (from 1, disagree strongly; to 7, agree strongly).

Norms against contact ($\alpha = .91$) were measured with seven items: (1) “I believe that my English friends would feel uneasy if I were to frequently hang around with asylum seekers”; (2) “I believe that my English friends would feel a bit tense if I invited an asylum seeker friend for dinner”; (3) I think that if I invited an asylum seeker friend to meet my English friends, they would receive him/her with a bit of suspicion”; (4) “I believe that my English friends would think it’s not normal to have an asylum seeker as a close friend”; (5) “I believe that my English friends would think it’s slightly awkward if I invited an asylum seeker friend to my house during the holidays”; (6) “I think that my English friends would be a bit apprehensive if I started dating an asylum seeker”; and (7) “I believe that if I had an asylum seeker friend, my English friends would receive him/her affectionately” (from 1, disagree strongly; to 7, agree strongly).

Intergroup Anxiety ($\alpha = .89$) was measured with six items. “Please try to imagine a situation in which you were the only English person working with a group of Asylum Seekers. How would you feel?” (1) “Nervous”, (2) “Comfortable”, (3) “Anxious”, (4) “At ease”, (5) “Awkward”, (6) “Accepted” (from 1, not at all; to 7, very much).

Empathy ($\alpha = .80$) was measured with three items: (1) “I am able to see things from the point of view of asylum seekers”, (2) “I am able to put myself in the shoes of asylum seekers”, (3) “I am able appreciate what asylum seekers must be feeling” (from 1, not at all; to 7, very much).

Inclusion of the outgroup in the self was measured with one item: “Using the following diagram, mark the pair of circles that you feel best represents how close do you feel to Asylum Seekers (6 point scale with progressively overlapping circles).

7.1.2 Results

The means for the different experimental conditions are available in Table 7.1. A series of regression analysis with planned contrasts were used to compare the ef-

fects of each experimental condition². In general, the experimental manipulations did not have significant effects in the dependent variables, but there are a few notable exceptions.

The levels of prejudice in the direct contact condition were significantly lower compared to the control ($\beta_{\text{direct contact}} = -.28, p = .05$), and there was a tendency for more positive affect in the indirect contact condition ($\beta_{\text{indirect contact}} = .22, p = .14$). None of the experimental conditions had an effect on intention for contact. These effects do not appear to be mediated by any of the measures included. No effects were found on norms against contact, intergroup anxiety, empathy, or inclusion of the outgroup in the self (IOS).

Table 7.1: Means by experimental condition, Experiment 1

	Control	Direct	Indirect	Mixed
Affect	4.47	4.79	5.02†	4.65
Prejudice	3.58	2.70**	3.13	3.13
Intention for Contact	4.84	4.83	4.94	4.88
Norms Against Contact	3.12	3.46	3.38	3.29
Intergroup Anxiety	3.85	3.84	4.06	3.60
Empathy	4.58	4.73	4.60	4.73
Inclusion of Outgroup in Self	1.84	2.25	2.31	2.44
Typicality of Ingroup Member	4.05	N/A	3.50	3.06**
Closeness to Ingroup Member	2.08	N/A	2.13	2.44

Note: ** $p < .05$, * $p < .10$, † $p < .15$; significance values in comparison with control condition.

As can be observed in Table 7.1, the perceived typicality of the ingroup member was lower in the indirect contact condition (though the effect was not significant), and even lower on the mixed condition ($\beta_{\text{mixed condition}} = -.32, p < .05$), where participants only saw one ingroup member instead of two. The perceived closeness with the ingroup member was not affected by the experimental conditions.

This reduction in perceived typicality of the ingroup member may explain the absence of an effect of the experimental conditions on ingroup norms. Indeed, using only the participants from the indirect contact and mixed conditions, norms against contact were less negative when the typicality of the ingroup member was high ($\beta = -.25, p = .09$) and, surprisingly, more negative when the ingroup

²Three variables were computed based on the experimental condition: *direct contact* (-1 in the control condition, 1 in the direct contact condition and 0 in the other conditions), *indirect contact* (-1 in the control condition, 1 in the indirect contact condition and 0 in the other conditions), and *mixed condition* (-1 in the control condition, 1 in the mixed condition and 0 in the other conditions).

member was perceived as closer to the participants ($\beta = .47, p = .01$), perhaps reflecting a perception that both the ingroup character and the participant belong to a more tolerant subgroup of English people.

Positive affect was also higher when ingroup typicality was high ($\beta = .25, p < .05$), and was not predicted by closeness ($\beta = -.01, p = .97$). Both empathy and IOS were more strongly predicted by perceived closeness ($\beta = .34, p = .09$ and $\beta = .54, p < .01$, respectively) than by ingroup typicality ($\beta = .21, p = .18$ and $\beta = .23, p = .15$, respectively).

It is relevant to note that these relations with typicality and closeness do not necessarily reflect a moderation of the effects of the experimental conditions. It may reflect a failure to generalise from ingroup members that are perceived as atypical or dissimilar to the participants, but it may also reflect that participants with less tolerant perceptions of ingroup norms, for example, were less likely to consider the characters to be typical of their ingroup in the indirect and mixed contact conditions.

Table 7.2: Correlations, Experiment 1

	PRE	NOR	IGA	EMP	ICO	IOS
Affect (AFF)	-.66**	-.38**	-.49**	.65**	.75**	.49**
Prejudice (PRE)	-	.37**	.29**	-.38**	-.59**	-.24*
Norms Against Contact (NOR)		-	.55**	-.02 _{ns}	-.50**	-.16 _{ns}
Intergroup Anxiety (IGA)			-	-.25*	-.54**	-.37**
Empathy (EMP)				-	.56**	.37**
Intention for Contact (ICO)					-	.42**
Inclusion of Outgroup in Self (IOS)						-

Note: ** $p < .01$, * $p < .05$, † $p < .10$

Finally, as can be observed in Table 7.2, the correlations between the variables considered in the study are consistent with the model that has been developed in the previous chapters. The only variable that had not been included in previous studies, inclusion of the outgroup in the self (IOS), was correlated with most variables, but less strongly with prejudice and not significantly with norms against contact.

7.1.3 Discussion

Even though the experimental manipulations did not have many effects on the dependent variables, the experiment provided some interesting results. Participants in the direct contact condition reported significantly lower levels of prejudice than in the control condition, and even if it was far from statistical significance, the

same tendency was observed for the indirect contact and mixed conditions. Similarly, participants in the indirect contact condition reported higher levels of positive affect than participants in the control condition, and the same tendency was observed in the means for the direct contact and mixed conditions.

It is puzzling that the experimental conditions, particularly the direct and indirect contact conditions, showed little or no sign of change in the mediators, given the differences observed on the measures of attitudes. The only mediator that showed some tendency in the expected direction was IOS, that was somewhat increased in the direct and indirect contact conditions and even more so in the mixed condition. This is also the only variable that suggests some added benefit of the mixed condition over an isolated manipulation of direct or indirect contact.

The results regarding typicality of ingroup members are particularly relevant. Despite the use of the same confederates in the control condition and in the experimental conditions that featured ingroup members, they were perceived to be considerably less typical when they reported having outgroup friends, especially when participants were only exposed to one English character in the mixed condition. The possibility of sub-typing of ingroup members when they engage in intergroup contact was promptly noted by Wright et al. (1997), and the results of this experiment seem to support their idea that sub-typing becomes increasingly constrained as the amount of ingroup members that are known to have contact with the outgroup increases.

7.2 Experiment 2: Attitudes towards Asylum Seekers (questionnaire version)

One of the main limitations of Experiment 1 was the small sample size used. In this second experiment, the same procedure was repeated with a larger sample and using a slightly younger population. The only difference in the design of the two experiments is that Experiment 2 made use of written stories instead of videos.

7.2.1 Method

Participants and procedure

One hundred and sixty-eight college students participated in this experiment (Mean Age = 16.9, S.D. = .89; 68% Female). The application of the questionnaires was done in the classrooms, and supervised by their teacher and me. The four versions of the questionnaire, corresponding to the four different experimental conditions, were collated and then distributed to the students (42 cases in each condition).

The instructions during the application of the questionnaire were the same as in Experiment 1. The stories that participants read were the same as the scripts for the videos in Experiment 1 (see Appendix, on page 177), and were accompanied by a picture of the character in each story (see Figure 7.1 on page 122). Participants were asked to read the stories carefully and provide their impressions on the first part of the questionnaire, and then to answer the second part with “background” questions where most of the dependent measures were included.

The participants in this experiment were debriefed later, with a document that explained the experiment and its relation with previous research, as well as providing some information about asylum seekers in the U.K. Only 151 students that categorised themselves as being English were used for the analyses (*Control Condition* $N = 41$; *Direct Contact* $N = 33$; *Indirect Contact* $N = 39$; *Mixed Condition* $N = 38$).

Measures

This experiment used the same measures as in Experiment 1, but the larger sample size allowed for an SEM analysis of the relations between the variables. As in previous studies, parceling was used for several latent variables using the *item-to-construct* balance approach (Little et al., 2002).

Typicality of ingroup members ($\alpha = .90$) and *Closeness to ingroup members* ($\alpha = .81$) were used as a single indicator. Only the mixed condition presented two ingroup members.

Intention for Contact ($\alpha = .78$). The three indicators were used in the SEM analysis.

Positive Affect ($\alpha = .85$). The three indicators were used in the SEM analysis.

Prejudice ($\alpha = .90$). For the SEM analysis, three parcels were used (items 2 and 5; 3 and 4; and 6 and 1).

Norms against contact ($\alpha = .92$). For the SEM analysis, three parcels were used (items 2 and 7; 1 and 5; and 3, 4 and 6).

Intergroup Anxiety ($\alpha = .89$). For the SEM analysis, three parcels were used (items 2 and 6, 3 and 5, and 1 and 4).

Empathy ($\alpha = .85$). The three indicators were used in the SEM analysis.

7.2.2 Results

The means for the different experimental conditions are available in Table 7.3. As in Experiment 1, the main analyses were done using regressions based on planned contrasts to compare each experimental condition with the control condition.

Once again, there were few significant effects of the experimental manipulation. Participants in the extended contact condition showed a tendency for increased positive affect ($\beta_{\text{indirect contact}} = .13, p = .18$), and participants in the mixed condition reported slightly higher levels of intention for contact ($\beta_{\text{mixed condition}} = .13, p = .21$). Regarding the mediators, there was a tendency for *increased* intergroup anxiety in the extended contact condition ($\beta_{\text{indirect contact}} = .15, p = .13$) but also for increased levels of IOS ($\beta_{\text{indirect contact}} = .16, p = .12$).

The perceived typicality of the ingroup members was lower in the indirect contact condition ($\beta_{\text{indirect contact}} = -.15, p = .15$) and even lower in the mixed condition ($\beta_{\text{mixed condition}} = -.24, p = .01$), where participants only observed one ingroup member that had an outgroup friend. Closeness to ingroup members was not affected by the experimental conditions, and no other effects with $p < .20$ were found.

Table 7.3: Means by experimental condition, Experiment 2

	Control	Direct	Indirect	Mixed
Affect	3.39	3.66	3.75†	3.41
Prejudice	4.12	4.15	3.97	4.05
Intention for Contact	3.63	3.69	3.85	3.97
Norms Against Contact	3.59	3.84	3.72	3.59
Ingroup-Outgroup Relation	1.95	1.79	2.03	1.82
Intergroup Anxiety	4.46	4.53	4.88†	4.62
Empathy	4.18	4.24	4.07	4.04
Inclusion of Outgroup in Self	1.71	1.61	1.92†	1.68
Typicality of Ingroup Member	3.79	N/A	3.01†	2.87**
Closeness to Ingroup Member	1.84	N/A	1.73	1.65

Note: ** $p < .05$, * $p < .10$, † $p < .15$; significance values in comparison with control condition.

Using only the participants in the indirect contact and mixed condition, ingroup typicality was especially important in predicting the values of ingroup norms, that were less negative when perceived ingroup typicality was high ($\beta = -.19, p = .12$), but were not predicted by perceived closeness to the ingroup characters ($\beta = -.04, p = .83$).

In contrast to the measure of norms, perceived closeness to the ingroup characters was more important than ingroup typicality when predicting attitudes or the other mediators. Positive affect was predicted only by closeness ($\beta = .44, p < .01$ for closeness, and $\beta = -.10, p = .28$ for typicality), and the same was true for prejudice levels ($\beta = -.33, p = .07$ for closeness, and $\beta = .11, p = .39$ for typical-

ity), IOS ($\beta = .38, p < .01$ for closeness, and $\beta = -.02, p = .85$ for typicality) and empathy ($\beta = .45, p < .05$ for closeness, $\beta = .16, p = .25$ for typicality). The same tendency was also present for intention for contact ($\beta = .16, p = .25$ for closeness, and $\beta = .07, p = .44$ for typicality).

Table 7.4: Correlations, Experiment 2

	PRE	NOR	IGA	EMP	ICO	IOS
Affect (AFF)	-.65	-.35	-.41	.47	.60	.47
Prejudice (PRE)	-	.45	.31	-.38	-.65	-.31
Norms Against Contact (NOR)		-	.48	-.30	-.61	-.29
Intergroup Anxiety (IGA)			-	-.38	-.42	-.36
Empathy (EMP)				-	.48	.37
Intention for Contact (ICO)					-	.37
Inclusion of Outgroup in Self (IOS)						-

Note: All correlations are significant with $p < .01$.

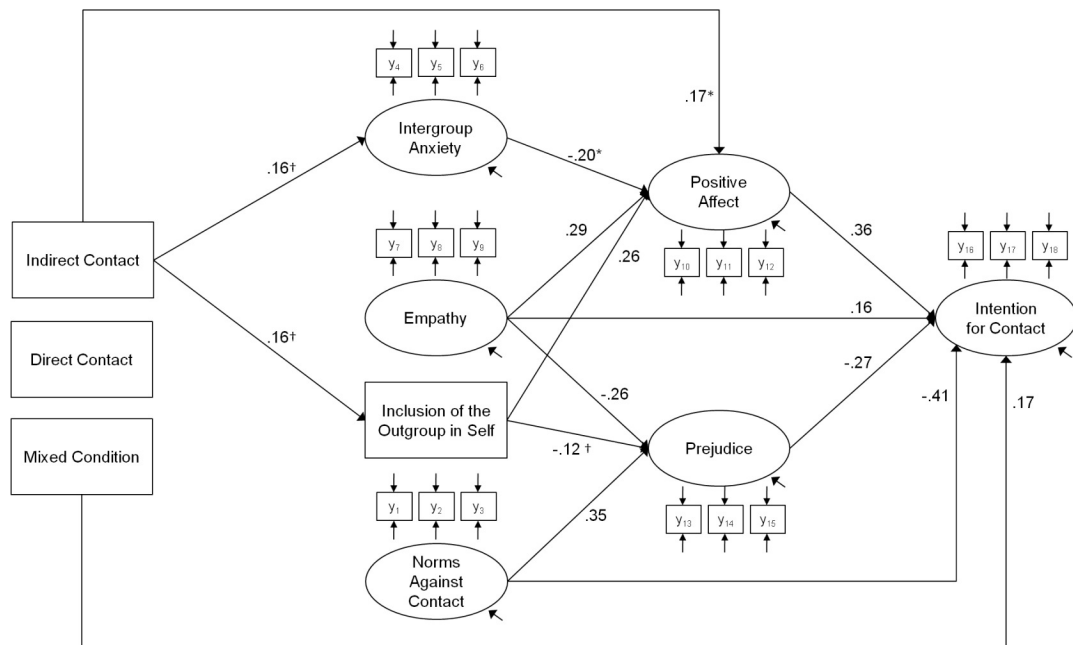
Figure 7.2 presents an SEM model aiming to replicate the relations between the variables that have been reported in previous studies, and to examine any residual effects of the experimental conditions after controlling for the mediators that were included in this questionnaire. Because the experimental manipulation seemed to have effects on the outcomes that were not explained by the mediators, all the direct paths were included in the model.

The model presented an acceptable fit with the data ($\chi^2(168) = 239.82, p < .01$; RMSEA = .053; SRMR = .050; CFI = .955), and the relations between the mediators, attitudes and intention for contact were consistent with the results obtained in previous studies.

The indirect contact condition showed a marginally significant direct effect increasing positive affect ($\beta = .17, p = .07$), and had two other effects that approached statistical significance: it increased the levels of IOS ($\beta = .16, p = .14$) and increased intergroup anxiety ($\beta = .16, p = .12$). The effect of the mixed condition on increased intention for contact, that was only a tendency in the previous analysis, is now significant after controlling for attitudes and the mediators ($\beta = .17, p < .05$). The direct contact condition had no effects on any of the variables included.

Of the mediators, empathy seemed to be the one that had stronger effects. It was associated with increased positive affect ($\beta = .29, p < .01$), reduced prejudice ($\beta = -.26, p < .05$) and increased intention for contact ($\beta = .16, p < .05$). Intergroup anxiety marginally predicted lower levels of positive affect ($\beta = -.20, p = .08$), but showed no effects on prejudice ($\beta = .00, p = .99$) or intention for

Figure 7.2: SEM Model, Experiment 2



Note: Paths are significant with $p < .05$ unless noted otherwise. * $p < .10$, † tendency.

contact ($\beta = .04$, $p = .64$). Norms against contact strongly predicted higher levels of prejudice ($\beta = .35$, $p < .01$) and less intention for contact ($\beta = -.41$, $p < .01$), but was not significantly associated with positive affect ($\beta = -.11$, $p = .29$). IOS predicted more positive affect ($\beta = .26$, $p < .01$) and showed a tendency for reduced prejudice ($\beta = -.12$, $p = .13$), but did not have a direct effect on intention for contact ($\beta = .00$, $p = .99$)

Both positive affect ($\beta = .36$, $p = .01$) and prejudice ($\beta = -.27$, $p = .01$) predicted intention for contact, and the model explained 44% of the variance of positive affect, 31% of the variance of prejudice and 86% of the variance of intention for contact. The correlations between the variables are available in Table 7.4.

7.2.3 Discussion

As in Experiment 1, many of the results of this experiment were not statistically significant: in general, it seems that the manipulation based on text was noticeably weaker than the manipulation based on videos. This was especially true for the direct contact condition, which had a strong effect on prejudice in Experiment 1, but produced no significant changes in the text-based version. Still, participants in both the direct and indirect contact conditions showed a tendency to report more positive affect towards Asylum Seekers compared to the control condition, though the effect only approached statistical significance in indirect contact condition.

An important difference with the previous results is that in this version of the experiment there were some indications of an influence on the mediators. Participants in the indirect contact condition showed a tendency for increased inclusion of the outgroup in the self, and an increase on intergroup anxiety. Even though this increase on intergroup anxiety is unexpected, the tendency was also present to some extent in Experiment 1.

Despite these influences on the mediators, it is clear that the manipulation had effects that were not explained by them. The significance of the effect of indirect contact on positive affect *increased* when the hypothesised mediators were included in the model, and so did the significance of the effect of the mixed condition on intention for contact. The fact that the mixed condition had a significant effect on intention for contact that was not present in the other conditions also provides support for the idea that there may be an added benefit from using direct and indirect contact together.

It is also relevant to underline the lack of an effect on the perception of ingroup norms in experiments 1 and 2. The results regarding the relation between typicality of ingroup members and perception of ingroup norms were virtually identical to Experiment 1, and indeed the considerable reduction in perceived typicality of ingroup members in the indirect contact condition and the mixed conditions may explain the lack of an effect on the perception of ingroup norms. It is interesting to note that the perception of ingroup norms was associated with typicality, and not with perceived closeness to the ingroup members, which is consistent with a normative explanation of subtyping of ingroup members. But because both of these measures were taken after the experimental manipulation, it is not possible to clarify if negative ingroup norms make subtyping more likely, or if subtyping prevents a change on the perception of ingroup norms.

Regardless of the possible influence of perceived typicality on the lack of an effect on ingroup norms, there is another potential explanation that merits some comment. A major limitation of the intergroup context used in these experiments is that the relations between the ingroup and outgroup members were of unequal status. In the stories, the asylum seekers were having a difficult time when they met their English friends, and the situation may be perceived as that of an ingroup member being a good person and helping someone in need, rather than simply making an outgroup friend. Partly because of this limitation, the following experiment will use a different intergroup context.

7.3 Experiment 3: Interactions with Muslims

Besides changing the intergroup context to that of attitudes towards Muslims in the U.K., this experiment also used a different approach to manipulate indirect contact. Rather than communicating the existence of cross-group friendships between ingroup and outgroup members, participants were exposed to actual intergroup interactions between ingroup and outgroup members. The *observation* of cross-group interactions has been termed *vicarious* intergroup contact (Mazziotta, Mummendey and Wright, 2010), and can be considered a subcategory of indirect contact. Indeed, it is very likely that many of the individuals that report having one or more indirect cross-group friends in survey studies have at one point or another observed their ingroup friends interact with outgroup members.

Even though the theoretical focus when proposing the extended contact hypothesis was on the *knowledge* that an ingroup member has a close relationship with an outgroup member, the role of observing such an interaction was also underlined. The experimental evidence in favour of the extended contact effect provided by Wright et al. (1997) is indeed based on the observation, not the mere knowledge, of a cross-group interaction.

Based on the framework of social-cognitive theory (Bandura, 1989; 1997), Mazziotta et al. (2010) presented two experiments showing that vicarious intergroup contact can improve intergroup attitudes and increase intention for contact by improving self-efficacy expectations: peoples' perceptions regarding their own abilities to successfully engage in an intergroup interaction. A previous study by Plant & Butz (2006) had manipulated self-efficacy expectations and shown it to be related to a reduction on intergroup anxiety and increased willingness to engage in cross-group interactions. Following this body of research, Experiment 3 also included a measure of self-efficacy expectations, which are hypothesised to mediate the effect of vicarious intergroup contact.

This experiment also added an important dependent variable: an actual interaction with an outgroup confederate. This addition is in line with the argument made throughout this thesis regarding the importance of studying the processes that may lead to more and better intergroup interactions, and the pivotal role that ingroup norms may play in such a process. So far, we have only seen a cross-sectional relation between ingroup norms and the *intention* of having intergroup contact.

Even though no research has evaluated the influence of ingroup norms on the behaviour of individuals during cross-group interactions, previous research supports the idea that it is influenced by intergroup attitudes, although not always in the expected direction. Dovidio and colleagues (e.g. Dovidio et al., 1997,

Experiment 3) have shown that more tolerant participants tend to have more positive cross-group interactions, and that implicit attitudes are particularly relevant in predicting non-verbal behaviour. A study by Dovidio, Kawakami and Gartner, (2002b) found that explicit attitudes predicted how positive the interaction was perceived to be by the participants, as well as their verbal behaviour, while implicit attitudes predicted their non-verbal behaviour and the evaluation of the interaction according to the outgroup confederates.

On the other hand, research has also supported the unintuitive idea that less tolerant participants tend to be more engaged on their intergroup interactions, and that minorities actually may prefer to interact with participants that have more negative attitudes (e.g. Shelton et al., 2005).

Even though ingroup norms are not manipulated in this study, the interaction with the outgroup member will occur after participants answer the questionnaire measures, thus preventing the possibility of the interaction influencing the perception of ingroup norms. An association between more positive ingroup norms and a more positive interaction with an outgroup member would provide some support for a causal argument, especially if ingroup norms are shown to mediate the effect of the experimental manipulation.

7.3.1 Method

Participants and procedure

Sixty-one undergraduates voluntarily took part in the experiment (Mean Age = 20.9, S.D. = 3.11; 75% Female). A Muslim participant, a participant coming from a Muslim family, and a participant that was a foreign student from the U.S. were removed from the final analyses.

The experiment was introduced as a study of intercultural interactions. Participants were told that the study was going to focus on interactions between English and Muslim people, and that in their case they would be interacting with another Muslim participant (actually a confederate).

Before having the interaction, participants were instructed to watch two videos of other participants interacting and rate the interactions on several aspects, such as friendliness and interest in the conversation. These videos were in fact the experimental manipulation: participants in the *control* condition observed two interactions between two English people, while participants in the *experimental* condition observed two interactions between an English participant and a Muslim participant.

The videos showed a positive and friendly interaction that was scripted based on the same questions that participants would use in their own conversation with

the confederates, and the content of the conversations was the same for the experimental and control conditions. The script for these videos is available in the Appendix, on page 182.

After rating the videos, participants answered a questionnaire with “background” questions where most of the measures were included. When participants finished the questionnaire the experimenter brought the Muslim confederate, who was supposedly also answering a questionnaire, to the room.

The interaction took place in two seats facing each other (the confederates always sat in the same position), and was based on the “fast friends” procedure introduced by Aron et al. (1997). The questions that were used are available in Table 7.5. The experimenter left the room after giving the instructions to the participants and turning the video camera on.

Participants were instructed to take turns in asking the questions. The cards were numbered as shown in Table 7.5, and confederates always had the uneven numbered cards, so that participants would provide the first answer in all interactions. Participants were given no time constraints for the conversations, but were told that they usually lasted about ten minutes.

The experiment used three male and three female confederates. In order to control for the content of the confederates’ answers, they were given a basic script to follow during the interaction (the script is available in the Appendix, on page 186). In order to control for the influence of the non-verbal behaviour of the confederates, they were also instructed to mimic the non-verbal behaviour of the participant in terms of friendliness. After the interaction was over, both the participant and the confederate received a short questionnaire regarding the conversation, which they answered in separate rooms. All interactions, both in the videos and with the confederates, were same-gender interactions.

Questionnaire measures

Positive affect ($\alpha = .94$) was measured with two items: (1) “How much do you like Muslims in general?”; (2) “In general, how much do you trust Muslims?” (from 1, not at all; to 7, very much). Both indicators were used in the SEM analysis. The third item in the scale used in the previous experiments was also included in the questionnaire but did not correlate well with items 1 and 2.

Prejudice ($\alpha = .73$) was measured with three items: (1) “Muslim people are undermining traditional English culture”; (2) “The values and beliefs of Muslims are incompatible with the values and beliefs of most English people” and (3) “I would be happy to have Muslim people as neighbours” (from 1, disagree strongly; to 7, agree strongly). All indicators were used in the SEM analysis.

Table 7.5: “Fast-Friends” questions used in Experiment 3

1. Please start by introducing yourselves. What are you studying? Do you have any hobbies?
2. Given the choice of anyone in the world, whom would you want as a dinner guest? Why?
3. What would constitute a really great day for you?
4. Is there something that you’ve dreamt of doing for a long time? Why haven’t you done it?
5. If you could find out anything about your life and the future, or anything else, what would you want to know?
6. If you could go back in your life and change any one experience, what would it be and why?
7. Share with your partner an embarrassing moment in your life.
8. Tell your partner about an important accomplishment in your life, or something that makes you proud.

Intention for contact ($\alpha = .74$) was measured with the same items as in the previous experiments. For the SEM analysis, two indicators were used (item 1 and 2; and item 3).

Expectations about the interaction ($\alpha = .79$) were measured with the following items: (1) “I think I will have a very good time during the conversation”; (2) “I feel that we will get along very well”; (3) “I think we will get to know each other during the conversation” (from 1, not at all; to 7, very much). The three indicators were used in the SEM analyses.

Norms against contact ($\alpha = .81$) were measured with the following items (1) “I believe that my English friends would feel uneasy if I were to hang around frequently with Muslim people”; (2) “I believe that my English friends would feel a bit tense if I invited a Muslim friend for dinner”; (3) “I think that if I invited Muslim friend to meet my English friends, they would receive him/her with a bit of suspicion”; (4) “I believe that my English friends would be pleased to know that I have a Muslim friend”; (5) “I think that my English friends would be a bit apprehensive if I started dating a Muslim”; (6) “I believe that if I had a Muslim friend, my English friends would receive him/her affectionately” (from 1, disagree strongly; to 7, agree strongly). For the SEM analysis, three parcels were used (items 2 and 5, 1 and 7, and 3 and 6).

Intergroup anxiety ($\alpha = .90$) was measured with the same items as in the previous experiments. For the SEM analysis, three parcels were used (items 4 and 6,

2 and 5, and 1 and 3).

Empathy ($\alpha = .89$) was measured with two items: (1) “I am able to see things from the point of view of Muslim people”; (2) “I am able to put myself in the shoes of Muslim people”. Both indicators were used in the SEM analyses. The third item in the scale used in the previous experiments was also included in the questionnaire but did not correlate well with items 1 and 2.

Self-efficacy expectations ($\alpha = .90$) were measured with six items: (1) “I am confident that I am able to establish a good relationship with a Muslim person”; (2) “Even if the contact with Muslim people is new to me, I know that I can trust my abilities to have a successful interaction”; (3) “I am confident that I will leave a good impression when interacting with a Muslim person”; (4) “I can trust my abilities to have a pleasant encounter with Muslim people”; (5) “My own uncertainties and worries don’t stop me from getting to know Muslim people”; (6) “I know that I can trust my abilities to successfully deal with any unexpected situation that may arise from an interaction with a Muslim person” (from 1, disagree strongly; to 7, agree strongly). For the SEM analysis, three parcels were used (items 2 and 5, 4 and 6, and 1 and 3).

Questionnaire after the interaction: *Participants’ evaluation of the interaction* ($\alpha = .85$) and the *Confederates’ evaluation of the interaction* ($\alpha = .91$) were measured with the following items: “I had a very good time during the conversation”; (2) “I felt that we got along very well; (3) “I got the impression that we really got to know each other during the conversation” (from 1, not at all; to 7, very much). The three indicators were used in the SEM analysis.

Feelings towards Muslims were assessed again using a feeling thermometer. “Please consider your feeling towards Muslim people in general. Would you say you feel warm towards them, or cold? Please enter any number between 0 and 100 to represent the degree of warm feelings you have towards this group.”

Friendship intention ($\alpha = .75$) with the interaction partner was measured with two items: (1) “I would be happy to meet with my interaction partner in the future”; (2) “I could see myself being close friends with my interaction partner” (from 1, disagree strongly; to 7, agree strongly). Both indicators were used in the SEM analyses.

Coding of the interaction

A research assistant, who was blind to the design and hypotheses of the experiment, coded several non-verbal behaviours during the interaction as well as a more subjective global rating of how friendly the interaction was using a scale

from 1 to 5. The indicators of non-verbal behaviour were mostly uncorrelated, so they were used individually for the analyses.

1. *Duration of the interaction*
2. *Nervous gestures*: Amount of nervous gestures per minute; when participants did gestures like rubbing or scratching the face, hair, arms or legs, tapping or fast movements of their feet, etc.
3. *Participant Laughter*: Laughs per minute of participant.
4. *Eye contact*: Proportion of time maintaining eye contact during the interaction.
5. *Folded arms*: Proportion of time with arms folded.
6. *Hand gestures*: Amount of times per minute in which the participants gestured with their hands.

7.3.2 Results

Effects of the experimental manipulation

Table 7.6 shows the effects of the experimental manipulation on each of the questionnaire measures considered in the study. Even though there was a tendency for increased intention for contact in the experimental condition, in general attitudes were unaffected by the manipulation. Regarding the mediators, participants in the experimental condition reported higher levels of self-efficacy ($\beta = .24$, $p = .05$) and a more positive perception of ingroup norms about contact, although this effect was only marginally significant ($\beta = -.20$, $p = .10$). There were no significant effects regarding the interaction with confederates, but it is interesting to note that the general tendency was for a *less* positive interaction in the experimental condition.

Effectiveness of direct contact in changing attitudes

An important objective of this experiment was to evaluate if indirect contact may prepare participants to engage in more positive interaction with outgroup members, and thus pave the way for further improvements in attitudes. As can be observed in Table 7.6, it does not seem that this was the case. Participants in the experimental condition showed a slight tendency for more positive affect right after the manipulation, but the opposite tendency was observed in the feeling thermometer after the interaction with the confederates.

Table 7.6: Effects of the experimental manipulation on questionnaire measures, Experiment 3

		Control	Experimental	β value	p value
<i>Attitudes</i>	Positive affect	4.81	4.95	.07	.58
	Prejudice	3.72	3.91	.13	.29
	Intention for contact	4.85	5.18	.17	.18
	Feeling thermometer (after interaction)	73.59	69.88	-.13	.34
<i>Mediators</i>	Norms against contact	2.45	2.08	-.20	.10
	Self-efficacy	5.38	5.75	.24	.05
	Intergroup Anxiety	3.17	3.39	.09	.52
	Empathy	4.03	4.00	-.01	.93
	IOS	3.12	3.10	-.02	.85
<i>Interaction</i>	Expectations of upcoming interaction	5.03	4.91	-.06	.68
	Participants' evaluation	6.11	6.04	-.06	.68
	Confederates' evaluation	5.82	5.56	-.13	.30
	Global rating (third person)	4.28	3.98	-.14	.31
	Friendship Intention	5.82	5.93	.08	.55

In order to test this idea more explicitly, an SEM analysis entering both positive affect and the experimental manipulation as predictors of the feeling thermometer after the interaction was performed ($\chi^2(1) = .31, p = .57$; RMSEA = .00; SRMR = .01; CFI = 1.00). The basic idea in this model is similar to a longitudinal analysis: assuming that the measure of positive affect and the feeling thermometer are capturing the same basic construct, the model evaluates if participating in the experimental condition had an influence in the amount of change in the feelings towards Muslims after the interaction with the confederate.

Consistent with the idea that the two measures are reflecting the same construct, positive affect strongly predicted higher values in the feeling thermometer after the interaction ($\beta = .71, p < .01$). After controlling for positive affect, participants in the experimental condition reported significantly less positive feelings than participants in the control condition ($\beta = -.20, p < .05$).

Because the absolute values of positive affect and the feeling thermometer are not strictly comparable, it is not possible to evaluate if this is due to a decrease in positive attitudes in the experimental condition or to a greater increase in positive attitudes in the control condition after the interaction. But this result does suggest that participants in the control condition benefited significantly more from the conversation with the confederate than participants in the experimental condition.

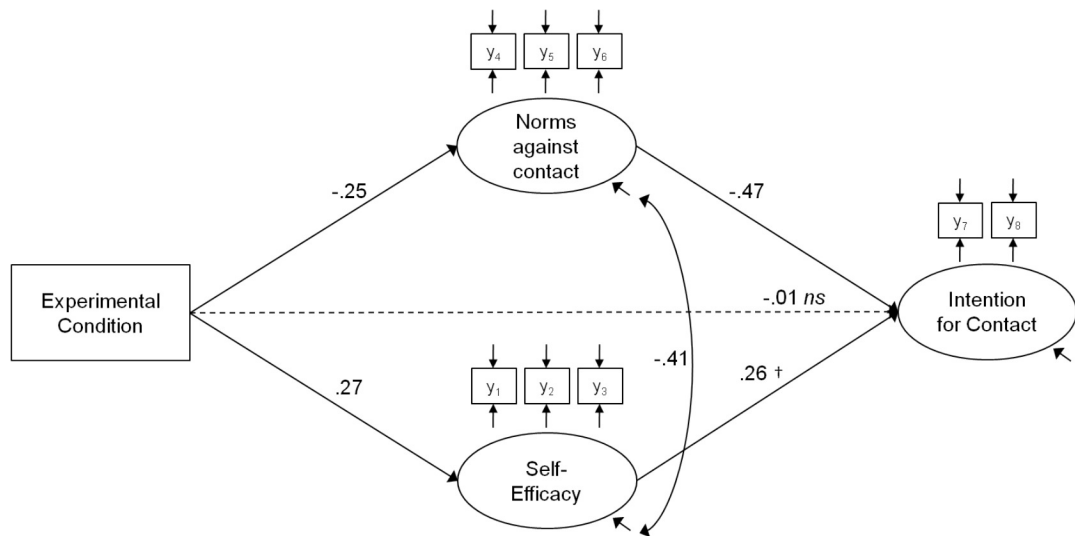
Mediation of the effects on attitudes

Even though many of the effects of the experimental condition on attitudes and on the cross-group interaction were not significant, it is of theoretical interest to know

if the mediation via ingroup norms and self-efficacy behaved as predicted. A significant indirect effect via ingroup norms of the experimental manipulation on attitudes, and especially in the interaction that occurred after participants answered the questionnaire, would provide important support for the causal sequence proposed in this thesis.

Figure 7.3 shows a model in which both ingroup norms and self-efficacy were included as mediators of the effect of the experimental manipulation, using intention for contact as dependent variable. The model presented a good fit to the data ($\chi^2(22) = 21.18, p = .51$; RMSEA = .000; SRMR = .040; CFI = 1.00), and provided support for the hypothesised relations.

Figure 7.3: Mediation of the effect of the experimental manipulation on intention for contact, Experiment 3

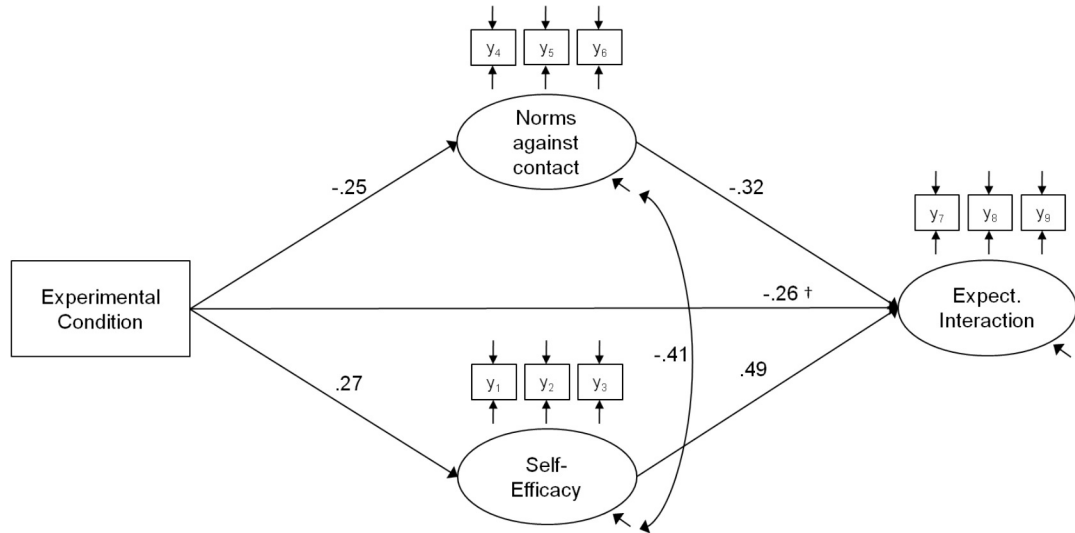


Participants in the experimental condition reported less norms against contact ($\beta = -.25, p = .06$) and more self-efficacy ($\beta = .27, p = .06$), which in turn were predictive of more intention for contact with Muslims, even though the effect of self-efficacy did not reach statistical significance ($\beta = -.47, p < .01$ for norms against contact, and $\beta = .26, p = .12$ for self-efficacy). The residual effect of the experimental manipulation on intention for contact was not significant ($\beta = -.01, p = .92$) in this model. Importantly, the indirect effect of the experimental condition was statistically significant (IE = .18, $p < .05$), and the specific indirect effect via ingroup norms was also significant (SI = .12, $p < .05$).

Similar results were obtained for positive affect ($\chi^2(22) = 26.65, p = .23$; RMSEA = .060; SRMR = .037; CFI = .982), that was marginally predicted by norms against contact ($\beta = -.27, p = .07$) and less strongly by self-efficacy ($\beta = .27, p = .13$). Again, the residual effect of the experimental condition was not

significant ($\beta = -.06, p = .69$). There was a marginally significant indirect effect of the experimental condition (IE = .14, $p = .06$), but none of the specific mediations reached statistical significance (SI = .07, $p = .15$ for norms, SI = .08, $p = .29$ for self-efficacy).

Figure 7.4: Mediation of the effect of the experimental manipulation on expectations about the upcoming interaction, Experiment 3

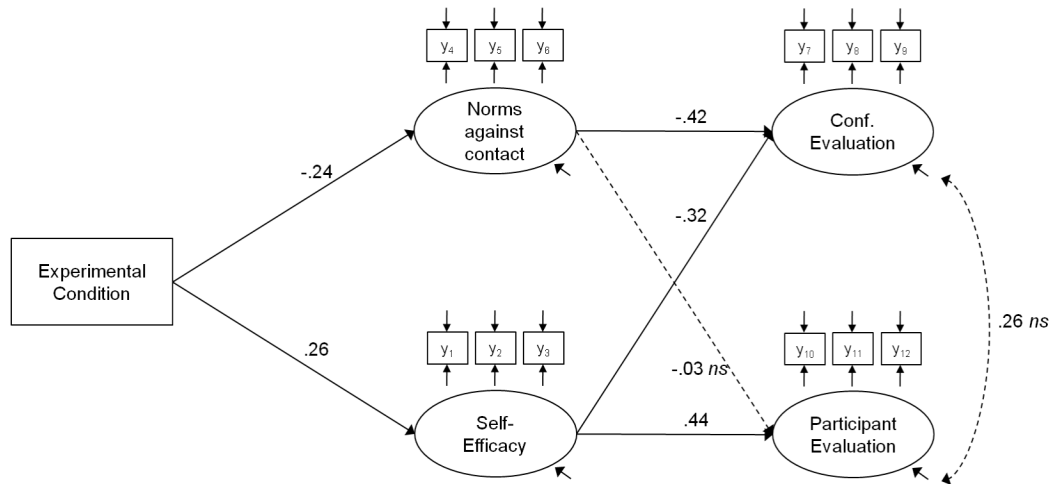


The results for prejudice ($\chi^2(30) = 33.31, p = .31$; RMSEA = .044; SRMR = .056; CFI = .986) and expectations about the upcoming interaction ($\chi^2(30) = 31.24, p = .40$; RMSEA = .027; SRMR = .048; CFI = .995) are slightly different. In both cases there was a marginally significant residual effect of the experimental manipulation, that increased the levels of prejudice ($\beta = .23, p = .11$) and decreased positive expectations about the upcoming interaction ($\beta = -.26, p = .07$). Both norms and self-efficacy predicted the levels of prejudice ($\beta = .49, p < .05$ for norms against contact; $\beta = -.33, p = .05$ for self-efficacy), and the expectations about the upcoming interaction ($\beta = -.32, p = .01$ for norms against contact; $\beta = .49, p < .01$ for self-efficacy) in the hypothesised direction. The indirect effect of the experimental manipulation was also significant in both cases (IE = -.20, $p = .05$ for prejudice; IE = .22, $p = .05$ for expectations about the upcoming interaction), but the specific indirect effects did not reach statistical significance (Predicting prejudice: SI = -.11, $p = .13$ for norms, SI = -.09, $p = .18$ for self efficacy; Predicting expectations about the upcoming interaction: SI = .08, $p = .13$ for norms, SI = .14, $p = .12$ for self efficacy). The model predicting expectations about the upcoming interaction is available in Figure 7.4.

The models explained 38% of the variance in intention for contact, 20% of the variance in positive affect, 45% of the variance of prejudice and 44% of the

variance of expectations about the upcoming interaction.

Figure 7.5: Mediation of the effect of the experimental manipulation on the evaluations of the interaction, Experiment 3



Mediation of the effects on the cross-group interaction

Figure 7.5 shows the mediation of the effects of the experimental manipulation on the evaluations of the interaction according to the confederates and according to the participants ($\chi^2(56) = 65.75, p = .18$; RMSEA = .055; SRMR = .064; CFI = .975).

These two evaluations were only moderately correlated ($r = .26, p = .18$), and were differentially predicted by the mediators. Norms against contact did not predict the evaluation of the interaction according to the participants ($\beta = -.03, p = .87$), but strongly predicted a more negative interaction according to the confederates ($\beta = -.42, p = .01$). Self-efficacy, on the other hand, was predictive of a more positive interaction according to the participants ($\beta = .44, p < .01$), but of a more *negative* interaction according to the confederates ($\beta = -.32, p < .05$).

The experimental condition had negative residual effects for the evaluation according to the participants and according to the confederates, but they did not reach statistical significance ($\beta = -.18, p = .19$ and $\beta = -.16, p = .24$ respectively). The indirect effects of the experimental manipulation were not significant in this model (SI = .11, $p = .13$ for the evaluation of the participant via self-efficacy; SI = .10, $p = .13$ for the evaluation of the confederate via norms; and SI = -.08, $p = .16$ for the evaluation of the confederate via self-efficacy). The model explained 19% of the variance in the evaluation according to the participant and 17% of the variance on the evaluation according to the confederate.

Further analyses showed that the model presented in figure 7.5 is indeed a good representation of the effects of the variables considered in the study. In a model in which all the mediators were included as independent variables predicting the participants' evaluation of the interaction ($\chi^2(67) = 90.88, p < .05$; RMSEA = .078; SRMR = .07; CFI = .944), only self-efficacy had a significant effect ($\beta = .36, p < .05$ for self-efficacy; $\beta = .00, p = .99$ for norms; $\beta = -.08, p = .66$ for intergroup anxiety and $\beta = -.01, p = .97$ for empathy). Similarly, in a model predicting the confederates' evaluation of the interaction ($\chi^2(67) = 107.04, p < .01$; RMSEA = .102; SRMR = .079; CFI = .914), the effects of norms and self-efficacy remained marginally significant ($\beta = -.35, p = .07$ and $\beta = -.40, p = .09$ respectively), and neither intergroup anxiety nor empathy had significant effects ($\beta = -.02, p = .94$ and $\beta = .18, p = .31$ respectively). Furthermore, these effects do not seem to be mediated by attitudes. The confederates' evaluation of the interaction was not predicted by prejudice, positive affect or intention for contact; and the same null results were obtained for the prediction of the evaluation of the interactions according to the participants.

Non-verbal behaviour on the interaction

Table 7.7: Effects of non-verbal behaviour on the evaluations of the interaction, Experiment 3

	Participant Evaluation	Confederate Evaluation	Friendship Intention	Global Rating
Total Time	.25**	.48***	.27**	.35***
Nervous gestures	.13 <i>ns</i>	.03 <i>ns</i>	.08 <i>ns</i>	-.18 <i>ns</i>
Laughs participant	.00 <i>ns</i>	.04 <i>ns</i>	.01 <i>ns</i>	.30***
Folded arms	-.10 <i>ns</i>	-.26***	.03 <i>ns</i>	-.31***
Duration eye contact	.35***	.18*	.21 <i>ns</i>	.06 <i>ns</i>
Hand gestures	.15 <i>ns</i>	.35***	.18 <i>ns</i>	.14 <i>ns</i>

*** $p < .01$, ** $p < .05$, * $p < .10$. Values in table are standardised betas.

The coding of the non-verbal behaviour of the participants during the interactions allows for a more comprehensive analysis of the effects of the experimental manipulation and the questionnaire measures on the conversations with the confederates. Table 7.7 presents the results of a series of regressions in which the different non-verbal behaviours were included as predictors of the evaluations of the interaction by the participants and the confederates, the intention for friendship of the participants and the global rating of the interaction according to a third-person perspective. The non-verbal behaviour was related to the perceptions of the interaction in the expected direction, providing some validation of the indicators used, even though different indicators predicted different perspectives

in the evaluation.

The most stable of the indicators was the duration of the interaction, which predicted a better evaluation by the participants and by the confederates, as well as with more intention for friendship with the confederate and a better evaluation in the global rating. Maintaining eye contact with the confederate predicted a more positive evaluation of the interaction according to the participants, and the same tendency was observed for the evaluation of the interaction according to the confederates. The proportion of time that participants spend with their arms folded was predictive of a more negative evaluation of the interaction by the confederates and in the global rating, but not on the evaluations by the participants. Finally, the amount of laughs by the participant only predicted the global rating, and amount of hand gestures during the interaction was predictive of a better evaluation by the confederates, but did not reach statistical significance in the other ratings. The amount of nervous gestures did not predict significantly any of the evaluations after the interaction.

Table 7.8: Predictors of non-verbal behaviour, Experiment 3

	TT	NG	LP	FA	EC	HG
Experimental condition	-.06 <i>ns</i>	.06 <i>ns</i>	-.20*	-.08 <i>ns</i>	-.07 <i>ns</i>	-.20†
Expectations of upcoming interaction	.01 <i>ns</i>	.03 <i>ns</i>	-.07 <i>ns</i>	.12 <i>ns</i>	.33***	.19 <i>ns</i>
Intention for contact	-.03 <i>ns</i>	.29***	-.21**	.18†	.10 <i>ns</i>	.09 <i>ns</i>
Positive affect	.04 <i>ns</i>	.22†	-.14 <i>ns</i>	.16*	.16†	.13 <i>ns</i>
Prejudice	-.11 <i>ns</i>	-.31**	.21*	-.04 <i>ns</i>	.04 <i>ns</i>	-.18 <i>ns</i>
Intergroup anxiety	-.09 <i>ns</i>	-.31**	.22*	.04 <i>ns</i>	-.11 <i>ns</i>	.24*
Norms against contact	-.20†	-.24**	.20*	.11 <i>ns</i>	.22**	-.14 <i>ns</i>
Self-efficacy	-.11 <i>ns</i>	.18†	-.49***	-.12 <i>ns</i>	-.07 <i>ns</i>	-.06 <i>ns</i>
Empathy	.29***	.16 <i>ns</i>	-.12 <i>ns</i>	-.07 <i>ns</i>	.01 <i>ns</i>	.16 <i>ns</i>

Note: TT: Total time, NG: nervous gestures, LP: laughs participant, EC: eye contact, FA: folded arms, HG: hand gestures. Values in table are standardised betas, each row is a separate path analysis predicting non-verbal behaviour. IOS was unrelated to any of the indicators of non-verbal behaviour.

*** $p < .01$, ** $p < .05$, * $p < .10$, † $p < .15$.

Table 7.8 shows the effects of the experimental manipulation and the questionnaire measures before the interaction on the different non-verbal behaviours considered. As will soon become apparent, many of the effects were in the opposite direction to what would be expected; that is, more tolerant participants appeared less relaxed and less friendly during the conversations.

But this was not the case when predicting the duration of the interaction. Participants that reported higher levels of empathy had longer interactions with the confederates ($\beta = .29$, $p < .01$), and there was a tendency for a shorter interaction

in participants with a more negative perception of ingroup norms ($\beta = -.20, p = .12$).

The amount of nervous gestures, on the other hand, was related with several of the variables included but in a different direction. The participants who made more nervous gestures during the interaction were those that reported more intention for contact ($\beta = .29, p < .01$), more positive affect ($\beta = .22, p = .12$), less prejudice ($\beta = -.31, p < .05$), less intergroup anxiety ($\beta = -.31, p < .05$), more positive ingroup norms ($\beta = -.24, p < .05$), and more self-efficacy ($\beta = .18, p = .15$).

Similar results were obtained for the amount of laughs of the participant during the interaction. Participants in the experimental condition laughed less than participants in the control condition ($\beta = -.20, p = .10$), and so did participant that reported more intention for contact ($\beta = -.21, p < .05$), less prejudice ($\beta = .21, p = .08$), less intergroup anxiety ($\beta = .22, p = .06$), less norms against contact ($\beta = .20, p = .06$), and particularly those participants that reported more self-efficacy ($\beta = -.49, p < .01$).

The amount of time in which participants interacted with their arms folded, a behaviour that was related to a more negative perception of the interaction by the confederates, was predicted by higher levels of intention for contact ($\beta = .18, p = .12$) and more positive affect ($\beta = .16, p < .09$). Participants in the experimental condition showed a tendency to make less gestures with their hands ($\beta = -.20, p = .12$), and the same tendency was observed for participants that had reported higher levels of intergroup anxiety ($\beta = .24, p = .10$).

Maintaining eye contact had mixed results. As could be expected, this behaviour was more frequent in participants that had more positive expectations about the interaction ($\beta = .33, p < .01$), and this tendency was also observed in participants with more positive affect towards the outgroup ($\beta = .16, p = .14$). On the other hand, eye contact was also predicted by more negative ingroup norms ($\beta = .20, p < .05$).

In general, it seems that more tolerant participants had a more serious attitude towards the interaction. They spent more time talking to the confederate; but they also made more nervous gestures, laughed less, and tended to fold their arms.³

³The analyses regarding non-verbal behaviour were also performed using gender and age as control variables. Even though they were related to non-verbal behaviour (females and older participants generally had more positive non-verbal behaviour), the effects reported here did not change.

7.3.3 Discussion

This experiment is the first to provide evidence of a causal effect from indirect intergroup contact to a more tolerant perception of ingroup norms. The experimental manipulation also increased self-efficacy, and participants in the experimental condition showed a tendency for an increase on intention for contact with Muslims. This tendency for increased intention for contact was in fact mediated by self-efficacy expectations, and especially by a change on the perception of ingroup norms.

Ingroup norms not only predicted other questionnaire measures as in previous studies (intention for contact, positive affect and prejudice), but also measures related with a concrete interaction with an outgroup member. Participants that reported more positive ingroup norms had better expectations about the upcoming interaction, had a more positive interaction according to the confederates, spent more time in the cross-group interaction. Interestingly, ingroup norms were not related to the evaluation of the interaction according to the participants themselves, suggesting that participants may have adjusted their evaluations with what they consider to be the typical response for their ingroup.

Especially in the case of the effect of norms on the evaluation of the interaction by the confederate, there is a strong argument to be made for the causal sequence that has been proposed. Each step in the mediation corresponds to a different time point, the relation between indirect intergroup contact and ingroup norms is based on an experimental manipulation, and participants had the interaction with the confederate after answering the questionnaire, which prevents the possibility of the interaction changing the perception of ingroup norms. The fact that the relation between norms and the interaction was only present in the evaluation by the confederate adds even more confidence to the causal sequence, in the sense that the relation between the two was not due to a semantic association between the items.

Self-efficacy expectations also proved to be an important variable in this context. They were affected by experimental manipulation and they also predicted attitudinal measures as well as measures related to the interaction: more self-efficacy was associated with more positive expectations and with a more successful interaction according to the participants. Unexpectedly, participants that reported more self-efficacy expectations had a more *negative* interaction according to the confederates. The fact that these participants laughed considerably less during the interaction provides some indication that the participants with high levels of self-efficacy expectations may have been more task-oriented during their conversations.

The effects of self-efficacy and ingroup norms on the interaction do not seem to be further mediated by attitudes. Instead, the results support the idea that these variables had a direct influence on the interaction. In other words, rather than participants' own attitudes towards the outgroup, the interaction was predicted by their perceptions of ingroup norms about intergroup contact and the self-efficacy expectations regarding their ability to have a friendly conversation with an outgroup member.

Even though this experiment included a third-person rating of overall friendliness, it is worth remarking that the perception of the participants and the confederates is what really matters in this case. In a real life situation, these perceptions are the ones that are going to determine the future of a possible relationship between English and Muslim individuals, regardless of how friendly the interaction may seem to an impartial observer. The fact that the evaluation of the interaction according to the participants and according to the confederates were not always aligned has also been observed in other studies with similar methodologies (e.g. Dovidio et al., 2002b), and underlines the importance of both perspectives in a successful intergroup interaction.

The evaluation of specific and more objective non-verbal behaviours also allowed for a more complete understanding of the interaction, and lead to a more complex picture of the relations between the variables considered in this model of intergroup contact. The non-verbal behaviour was indeed related to the evaluation of the interaction by the participants and the confederates, though these two evaluations were influenced by different indicators in some cases. In general, tolerant participants seemed to take the conversation with the outgroup confederate more seriously, spending more time with them but also laughing less, having more nervous gestures and folding their arms.

The reasons that may explain this pattern of results escape the design of this experiment, but there is some research that has found similar results before. Shelton et al. (2005) showed that Black participants actually prefer to interact with a more prejudiced White partner, and that this effect was mediated by a perception of engagement during the interaction. But these results are only partially consistent with the results of this experiment. Less tolerant participants did seem more engaged during their intergroup interactions, but their conversations did not receive a better evaluation by the confederates.

Research by Vorauer & Turpie (2004) may provide an explanation for these unexpected effects on the non-verbal behaviour of participants. In a series of studies, they tested the idea that evaluative concerns -worries about how one is being perceived in terms of tolerant or intolerant behaviour towards outgroup members- can have different effects on prejudiced or tolerant participants. Under

high evaluative concern, participants who were less positive towards the outgroup reacted by being more warm and friendly during the interaction. But evaluative concerns had the opposite effect on more tolerant participants, leading to less intimacy building behaviour, such as self-disclosure and eye contact.

It seems very likely that participants in this study felt evaluative concerns: they knew they were being videotaped and the conversation was of an explicit intergroup nature. If this is indeed the reason that more tolerant participants were more serious and seemed more nervous during the interaction, it is interesting to remark that the duration of the interaction was not affected in this way. The results suggest that even though tolerant participants were nervous during the conversations, perhaps because of evaluative concerns, they stayed longer than less tolerant participants.

The effects of ingroup norms and self-efficacy expectations on the evaluation of the interaction according to the confederates may be a consequence of these two processes: participants with more tolerant ingroup norms had a more positive interaction, but participants with more positive self-efficacy expectations -a variable that may be particularly related to situational evaluative concerns⁴- had a more negative interaction according to the confederates. Providing a situation in which evaluative concerns are minimised may result in a more optimistic picture, where both ingroup norms and self-efficacy expectations would be related with a more positive cross-group interaction.

Another important result of this experiment suggest that, contrary to the intuitive proposition that indirect intergroup contact may prepare for more successful direct intergroup interactions in the future by reducing intergroup anxiety (e.g. Christ et al., 2010; Turner et al., 2007b), participants in the control condition benefited more from the conversation with the confederates than participants in the experimental condition. Indeed, it seems that observing positive intergroup interactions made the participants more nervous during their conversation with the confederate, which may account for this effect.

Finally, it is worth to underline some of the limitations regarding the generalisation of these results. Firstly, as discussed in previous paragraphs, it is unclear that the same findings would be obtained in a situation that prompted less evaluative concerns, and this factor should be included in the design of future experiments. Secondly, even though the interaction with the Muslim participant was voluntary; the amount of social pressure to have the interaction was considerable.

⁴The relation between perceived ingroup norms and evaluative concerns seems less clear. If participants were affected by evaluative concerns, these would be situational norms regarding an interaction that was being videotaped, took place in a university setting and was part of a study that was explicitly about intergroup interactions. Even participants perceiving ingroup norms as unsupportive of contact with Muslims would be aware of these situational cues.

In most real life settings, people have more freedom to choose to they engage in cross-group interactions or not. Participants in the experimental condition did show a tendency for increase intention for contact, and in that sense indirect contact may be beneficial in promoting more direct contact in the first place.

7.4 General discussion

The experiments provided important information regarding the relation between indirect intergroup contact and ingroup norms. In the first two, there was clear evidence of sub-typing. The results supported the prediction by Wright et al. (1997) regarding the role of increased numbers of indirect friends: there was less sub-typing when participants were exposed to two ingroup members with outgroup friends rather than just one. Furthermore, the perceived typicality of ingroup members was related with ingroup norms in both experiments in the expected direction, even if the causal direction of this association was unclear. Sub-typing on indirect contact is an issue that merits explicit attention in future research, and experimental designs that include a measure or a manipulation of ingroup norms before the indirect contact manipulation, or that manipulate the perceived typicality of ingroup members directly, would be well suited for that aim.

In contrast with Experiments 1 and 2, the design of Experiment 3 made the sub-typing of ingroup members much more difficult. Because participants thought that they were observing real interactions between other participants, the ingroup members in the videos could not be considered atypical just because they engaged in an interaction with a member of the outgroup -they were simply participating in the study. And indeed, this was the only experiment that showed an effect on the perception of ingroup norms. This third experiment also provided support for the causal relation between ingroup norms and *direct* intergroup contact. Participants that reported more positive ingroup norms about intergroup contact had a more positive interaction according to the confederates.

Regardless of these results, the experiments also illustrated the difficulties involved in changing attitudes via indirect intergroup contact. The improvement in the indirect contact conditions across the experiments was only marginal and fairly inconsistent. In the third experiment, even though participants in the experimental condition perceived ingroup norms to be more tolerant and reported more positive self-efficacy expectations, the only indication of an improvement of attitudes towards Muslims was a tendency for an increase on intention for contact.

The results regarding intergroup anxiety were also puzzling. Contrary to the extended contact hypothesis and the cross-sectional results obtained in several

studies on this research project and elsewhere (see Turner et al., 2007b), there was a tendency for indirect contact to increase intergroup anxiety in all experiments.

Even though these experiments provided important information regarding some pivotal theoretical issues in this thesis, the general assessment of this chapter leads to more questions than answers. Besides the unexpected effects on intergroup anxiety, the mild effects on attitudes and the role of sub-typing, future research should explore the relation between intergroup attitudes and intergroup interactions in more detail. Of particular interest here are the unexpected effects of self-efficacy in the evaluation of the interaction by the confederates, and the apparent inconsistency between the attitudes of participants and their non-verbal behaviour.

Chapter 8

Conclusions and further research

Proprietor: “What the hell do you suppose is the matter with him? He’s not drunk.”

Teacher: “Maybe he’s one of those people who has Negro friends.”
(from Kohn & Williams, 1956, p. 168)

8.1 Summary of objectives and findings

In a restricted sense, this thesis is about testing one of the mediators of the extended contact effect: ingroup norms. In a more general sense, though, I have tried to develop a research project that treats intergroup contact as a social process that involves two *groups* getting into contact, and where individuals are influenced by their immediate experiences with the outgroup (i.e. direct contact) as well as the experiences of other ingroup members (i.e. indirect contact). The perception of ingroup norms regarding contact is not just one more possible mediator of indirect contact, but the main way to capture the normative influence of the behaviour of the ingroup on individual attitudes, and their behaviour regarding the kind of contact they have with outgroup members.

In this perspective, indirect contact is not simply an alternative way to obtain the benefits of direct contact without having individuals actually engage in intergroup interactions, but the reflection of a process that occurs naturally. On intergroup relations, as in everything else, people are influenced by the reactions of others. And the perceived level of intergroup contact between the ingroup and the outgroup provides individuals with a good indicator to estimate their group’s attitudes towards the outgroup.

The model I have developed in this thesis also differs from traditional research on intergroup contact in that the emphasis is not only on the potential for contact to reduce prejudice, but also on the social-psychological underpinnings of contact

behaviour. The experiences that people have with outgroup members and the relationships they observe between other ingroup and outgroup members are a dynamic process, and the influence of previous experiences in future behaviour is at least partly mediated by a series of psychological variables that have been the main focus of attention in the studies presented here.

Most generally, the model proposed states that the direct experiences with outgroup members will influence attitudes mainly by via emotional mediators such as empathy, while the contact behaviour of other ingroup members has a normative influence. Along with attitudes towards the outgroup, these variables influence the intention of engaging in contact with outgroup members, which in turn will eventually be reflected in their network of relationships, where they may have more or less outgroup members and more or less ingroup members that have outgroup friends.

Study 1 provided the first evidence for the mediation of the effect of indirect contact by ingroup norms, and also included a multilevel analysis that underlined the intimate relation between direct and indirect intergroup contact. The same event, two individuals from different groups having a close relationship, influenced the actors in that relationship directly but also influenced their fellow ingroup members (or classmates, in this case). The multilevel analysis in Study 1 showed that only this second influence is of a normative nature.

Even though I did not have the opportunity to repeat this kind of analysis in other contexts, Study 5 extended the previous results by introducing the influence of the proportion of minority students in each classroom. As hypothesised in Chapter 1, when an increased minority proportion is not accompanied by increased intergroup contact, the segregation is far from invisible. People in classrooms where this was the case perceived ingroup norms to be less supportive of intergroup contact, while people in classrooms where an increase minority proportion was related with an increase in the number of outgroup friends perceived ingroup norms to be more tolerant.

Studies 2 and 3 extended the model previously examined by including other variables. Study 2 provided the first evidence that the perception of ingroup norms about contact influences the intention of engaging in cross-group interactions both directly and indirectly, by affecting attitudes, replicating the results reported by Fendrich (1967). Study 3 tested a more complete model that captured the different processes by which direct and indirect contact influence attitudes. As in previous studies, ingroup norms were only affected by indirect contact, but now direct contact also had a mediator that was not affected by indirect contact: empathy. Both ingroup norms and empathy were shown to be strong predictors of attitudes as well as intention for contact.

In Study 4, I took a necessary step back to evaluate some of the assumptions of the model proposed. The relation between the perception of ingroup norms about contact and intergroup attitudes was shown to be moderated by variables that would be expected to moderate a normative effect: ingroup identification, conservatism and authoritarianism. Even though the results were less strong, this was also shown to be the case for the relation between indirect contact and attitudes.

Ingroup norms about contact were also compared with norms regarding the expression of prejudice, thus providing at least a preliminary test of the idea that the focus on contact is of particular importance. Individuals use intergroup contact to infer the ingroup's opinion of the outgroup, because it provides them with a clear behaviour that can hardly be interpreted to follow other motives besides a genuine acceptance of an outgroup member. Even though norms about contact were highly correlated with norms about expressing prejudice, only the former predicted attitudes and intention for contact when the two were included in the model.

Finally, this study also showed that close ingroup members have a particularly strong influence on the perception of ingroup norms. They were predicted by indirect contact and by exposure to negative remarks by close ingroup members; and when these variables were included, the influence of observing other ingroup members discriminate, and the influence of the media, political leaders and authority figures was not significant.

In studies 5 and 6 I tested the causal assumptions of the model, which had so far only received cross-sectional support. In general, the pattern of relations proved to be far more complicated than the model would imply. The studies found no support for a longitudinal effect of indirect contact, and there was even a negative residual effect suppressed by ingroup norms. In Study 5, when more indirect contact was not associated with a more tolerant perception of ingroup norms, attitudes towards the outgroup tended to become more negative over time. The results regarding the causal influence of ingroup norms were more encouraging. In Study 5, ingroup norms predicted a decrease on intergroup anxiety and an increase in positive attitudes. In Study 6, ingroup norms predicted an increase in empathy towards the outgroup, but only via a cross-sectional effect on intention for contact with outgroup members.

Evidence for the causal sequence proposed was also gathered in the three experiments presented in Chapter 7. The first two experiments provided little support for any of these causal relations. There were some marginally significant effects of indirect contact, but they were not mediated by ingroup norms or any of the other mediators that have been proposed in the literature. In contrast, these experiments did provide clear evidence for sub-typing: when the characters in the

stories reported having outgroup friends they were perceived to be less typical of the ingroup, and the effect was amplified when participants were only exposed to one of these characters instead of two. Furthermore, the perceived typicality of ingroup characters was shown to be strongly related with the perception of ingroup norms.

The third experiment provided more supportive results for the model, using exposure to actual interactions between ingroup and outgroup members as a manipulation. Participants who observed these positive interactions improved their perception of ingroup norms and increased their self-efficacy expectations regarding their behaviour in an interaction with outgroup members. This is the strongest evidence for the causal influence of indirect contact on ingroup norms in this thesis, and the first experimental evidence of the effect.

The experiment also included an actual interaction with an outgroup member, testing the causal relation between the psychological variables and the subsequent behaviour in a cross-group interaction. Providing support for the influence of the perception of ingroup norms on the success or failure of actual interactions with outgroup members, the confederates rated the interactions of the participants that had previously reported more negative ingroup norms to be less positive and enjoyable. Interestingly, this influence was not reflected in the evaluations of the interaction done by the participants themselves

The analysis of the non-verbal behaviour of participants provided very interesting results, which open up a range of possibilities for further research, but are not particularly telling in terms of the hypotheses in this research project. They did provide some support for the effect of norms in actual behaviour. Participants who had previously reported more empathy and more positive ingroup norms spent more time engaged in the cross-group interaction. But it seems that more tolerant participants were also more nervous during the interaction: they laughed less, showed more nervous gestures and tended to fold their arms. The reasons for this apparent contradiction escape the design of this experiment, and will have to be examined in future studies.

Each of these nine studies had important methodological limitations that were considered in their respective chapters. But looking at the research project as a whole, I consider the evidence gathered to support the main tenets of the model proposed: that indirect contact has a normative influence, and the perception of ingroup norms about contact strongly influences attitudes towards the outgroup and the subsequent behaviour with outgroup members.

A major limitation of the research project reported here is that it only focused on the perspective of majority members and their attitudes towards minorities. Even though Wright et al. (1997) did provide some evidence for the extended

contact effect in participants from minority groups, the normative processes and the relative importance of ingroup norms may not be the same in these cases, and any generalisation of these results to other intergroup contexts should be made considering this limitation. The same has been true for research on direct intergroup contact, and the results of the studies that explore the influence of intergroup contact in minority members have generally found weaker effects (Binder et al., 2009; Tropp & Pettigrew, 2005).

8.2 Empathy, intergroup anxiety and intention for contact

In the process of gathering the evidence for this thesis, there were several results that are relevant to research in intergroup contact in general, but not particularly related to the main arguments of the theoretical model. I will briefly mention these before engaging in a discussion of further research regarding a normative approach to intergroup contact.

In their meta-analysis of the effects of intergroup contact, Pettigrew & Tropp (2008) showed that the mediation via empathy was of a similar magnitude to the mediation via intergroup anxiety, but there were considerably less studies that had tested this relation. Empathy was included in many of the studies reported here, and I feel that the results allow for a stronger endorsement of the importance of this variable.

Empathy was introduced in these studies with the objective of differentiating the psychological processes put into motion by direct and indirect intergroup contact. Indeed, the results supported this idea. But empathy not only always had strong effects on attitudes, it was also a powerful predictor of intention for contact as well as actual behaviour: in Experiment 3 it was the strongest predictor of the amount of time participants spent during their cross-group interaction. Indeed, empathy has been found to be an important predictor of other intergroup behaviours, such as helping members of stigmatised groups (Batson, Chang, Orr, & Rowland, 2002).

In contrast, intergroup anxiety rarely had significant effects on intention for contact with outgroup members, a very unintuitive result given the close theoretical association between intergroup anxiety and intergroup contact, as well as the heading of the scale in the questionnaires, that refers specifically to interactions with outgroup members.

As described in Chapter 1, there is considerable evidence showing that when people engage in intergroup contact they experience intergroup anxiety, but the

questionnaire measure on intergroup anxiety does not seem to be capturing this process. It is possible that individuals are not very accurate at estimating how they would feel during an intergroup interaction, and the data from Experiment 3 seems to point in that direction: individuals with lower levels of intergroup anxiety in the questionnaire had significantly more nervous gestures during the interaction.

This would imply a considerable disconnect between the questionnaire measure and the theoretical argument for the influence of this variable on intergroup attitudes, that requires individuals actually experiencing intergroup anxiety for it to have an effect that is due to an increased use of heuristics and a strengthened association between this negative feeling and the outgroup. Given the attention that this variable has received in the literature on intergroup contact, future research should explore this causal path with more detail, especially regarding the consistency between a questionnaire measure and the actual feeling of anxiety and the cognitive mechanisms that explain its detrimental effects.

Intention for contact also merits further attention. Originally used as a proxy for actual behaviour in the survey studies, this variable soon showed to be particularly interesting. Firstly, the models generally predicted a large part of the interindividual variation in this variable, and this was not an artefact of the fact that it was the final dependent variable: it was generally strongly correlated with most of the constructs measured.

Perhaps related to this, intention for contact predicted most of the other psychological constructs *longitudinally* in Study 6. This relation was not hypothesised, and seems hard to understand without entertaining the idea of some intermediate processes. For example, even though intention for contact was not associated with an increase in cross-group friendship over the five month period of this study, it may have been related with more positive small everyday interactions with outgroup members, which could explain its widespread longitudinal effects.

The study of the predictors and consequences of everyday intergroup interactions is a good example of where I feel further research on intergroup contact is needed, especially if we are to gain a better understanding of the social and normative processes related to intergroup contact.

8.3 Further research for a normative understanding of intergroup contact

Even though it seems clear that contact measures focusing on friendship have a particularly strong effect on attitudes, a self-report measure of the number of

cross-group friends seems to be a crude measure of intergroup contact if we are to understand it as a dynamic process. This measure does not take into account the timings in which these relationships are developed, or the social structure that allows them to develop in the first place.

A hint of this process was observable in the results of the longitudinal studies, where direct and indirect contact predicted each other longitudinally. Indirect cross-group friendship was related to an increase in direct cross-group friendship in both studies, and direct cross-group friendship was also related to an increase in direct cross-group friendship in Study 6. These two effects are probably due to an increased opportunity for contact that stems from a desegregation of the social network of participants.

The process by which close intergroup relationships are formed, maintained and dissolved over time merits an increased attention from intergroup contact researchers, and understanding such a process will require an account of individual attitudes, normative influences and structural (i.e. not psychological) variables. Social network analysis (e.g. McPherson et al., 2001) and ethnographic studies (e.g. Clack et al., 2005; Dixon & Durrheim, 2003) have provided important insights into some of these structural variables, but future research should strive to integrate these with psychological constructs. Most of the research on intergroup contact, along with the research project presented here (with the possible exception of the multilevel analyses), has ignored these important constraints on cross-group interactions, and the consequences that they probably have for the perception of ingroup norms and the development of intergroup attitudes.

For example, if the perception of ingroup norms is strongly influenced by the behaviour of other ingroup members that people are exposed to, it seems possible that structural constraints influencing such behaviour may have an unintended consequence in the perception of these norms. Some examples of structural constraints that may limit intergroup contact are language barriers, residential segregation due to different incomes between the groups, and the creation of different classrooms based on performance that is correlated with group membership.

Given that people tend to attribute the behaviour of other individuals as corresponding to their internal motivations rather than situational influences (Jones & Harris, 1967; Ross, 1977b), it is possible that these cases will prompt individuals to interpret the lack of contact between their ingroup and the outgroup as a reflection of a dislike of outgroup members, and of social norms that proscribe cross-group interactions. If this is the case, it would explain why situations such as those described by Dixon et al. (2003) and Clack et al. (2005) tend to be maintained and even reinforced over time.

Different methodologies are available to approach this kind of research, and

I strongly believe that there is ample room for creativity in the development of new methodological designs in the study of intergroup contact, that has relied too heavily in correlational survey studies and, less frequently, experimental designs.

Throughout this thesis I have paid considerable theoretical attention to the social network of individuals, but the studies presented here have only included basic indicators to describe it: the number of direct and indirect outgroup friends, and the perception of the opinion of ingroup friends regarding intergroup contact. Social network analysis has proved to be an apt methodology in several fields, but its use in social psychology is still scarce. The advantages of this methodology strive from the identification of all the connections in a social network, and the possibility of evaluating the changes in the social network over time.

In the case of intergroup contact research, this would allow to identify different predictors of this change. For example, if a change in the social connections of an ingroup friend is followed by a change in the social connections of the individuals, and there is no reason for not integrating this methodology with other behavioural or questionnaire measures that are relevant for the psychological understanding of intergroup contact.

Even though there has been an increase in longitudinal studies, they are typically based in two or three applications separated by several months. Less frequent is the use of diary studies, which involve frequent measures over a relatively shorter period of time. This methodology may be particularly fruitful in situations where participants are likely to change their social network, such as starting university, starting a new job, moving to a new city, etc. Including a large number of measures over time provides the opportunity to evaluate growth models that predict the rate and nature of the change with considerably more detail than traditional longitudinal studies.

I believe that there is also great merit in going back to the designs that were more frequent in early research on intergroup contact, such as the study by Wilner et al. (1952), and integrate them with more recent advancements in statistical data analysis. Multilevel analyses were specifically designed to study issues such as the influence of different patterns of segregation at an aggregate level (a residential project or a city), but the use this technique on intergroup contact research has been scarce.

Besides the studies reported here, the only multilevel analysis of intergroup contact I have found is the study by Wagner et al. (2006), which set out to evaluate the effect of the proportion of foreigners on prejudice, using a large probability sample in Germany. Consistent with the results reported in this thesis, the effect of intergroup contact with foreigners was significant both at the individual and at the district level. People who lived in districts that reported more contact with for-

eigners were less prejudiced, regardless of their own level of contact. Even though this relationship was not explored further in their paper, it seems reasonable to hypothesise that this effect of contact at the district level is related to the perception of more or less tolerant social norms about contact with foreigners. People who live in districts where there is more contact between members of the majority and foreigners are more likely to perceive that such contact is normal and that relations between the majority and foreign people are more harmonious.

8.4 Other theoretical directions for future research

Besides these general considerations regarding a research project focusing on a normative perspective on intergroup contact, there are a number of theoretical issues that follow from this perspective that merit some attention.

Even though there was some evidence of internalisation of the perceived in-group norms, that were longitudinally associated with attitudes and the other mediators proposed, the research reported here did not evaluate this process explicitly. A major theoretical question involves the relation between perceived in-group norms promoting intergroup contact and the development of more stable values about diversity.

It seems likely that these two variables are related, and the study of this process requires an integration with research in developmental psychology and a focus on younger participants than the ones used in this thesis. Without doubt, children are aware of the social norms regarding intergroup contact from an early age, and it seems likely that an exposure to ingroup norms promoting integration or segregation between different groups will have a strong impact in the development of attitudes about how intergroup relations should be, that are stable and important for their personal identity.

Another topic that could provide a promising line of research is the interplay between the perception of more informal social norms regarding contact and authority support. Following the contact hypothesis outlined by Allport (1954) research on authority support, scarce as it is, has focused on its role as a moderator of the effects of intergroup contact. But given the results of this research project regarding the influence of informal social norms, it seems likely that it also has a more direct influence on shaping intergroup attitudes and making intergroup contact more likely in the first place. As in the case of the influence of ingroup norms about contact and indirect cross-group interactions, it may not necessary for the support to be explicit. The behaviour of authority figures, and policy decisions that simply imply a particular relation between the groups, may have a strong influence.

8.5 Implications for the improvement of intergroup relations

Finally, I wish to discuss some of the implications of a normative perspective on intergroup contact for programmes striving to improve intergroup relations as well as more general policy decisions.

The fact that people are influenced by the cross-group interactions they observe in their social environment implies a process of change that is characterised by a difficult beginning, because individuals will tend to revert to the normative lack of cross-group interactions. But it also implies that the rate of change will be accelerated once a critical amount of individuals start changing their behaviour, because individuals will start to conform to the new social norm.

Interventions that last for a short amount of time or that only target few individuals in a community will most likely have little influence, even if they are effective in changing the views of the participants directly involved. In contrast, this approach suggests interventions that target whole communities, and that can be extended over long periods of time. Interventions in schools, for example, should consist of long term policies that include administrative and structural arrangements that make positive intergroup interactions more likely, and should strive to integrate the whole community, not only their students. Again, it may not be necessary, or even desirable, to frame an intervention with explicit reference to intergroup contact. An intervention that promotes intergroup contact without seeming to force participants into it will probably be more effective in changing the perception of ingroup norms.

A recent paper by Wessel (2009) provides an inspiring discussion about how the planning of urban spaces may contribute to promote more intergroup contact and more harmonious intergroup relations. Further research is needed in this area, but it seems very likely that city or district policies that attempt to reduce segregation using a long term program of activities that provide opportunities for positive cross-group interactions, coupled with structural arrangements in the urban spaces that promote integration in informal settings, would be particularly effective.

It is important to stress that intergroup contact is not the only possible intervention that can improve intergroup relations (see Paluck & Green, 2009, for a review), but the theoretical model and the findings reported in this research project underline both the positive influences of intergroup contact and the negative consequences of segregation. The existence of “parallel lives” between members of different groups not only has negative consequences because it prevents the positive direct influence of having cross-group interactions, but also because it commu-

nicates more negative ingroup norms regarding the desirability of such contact, which promotes more negative attitudes and prevents people from having positive cross-group interactions even if the opportunity presents itself.

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Appendix

Text for direct contact condition, Experiments 1 and 2

Sami. Asylum Seeker, 21 years old:

I come from the Middle East, and I came to England four years ago. Because my father and my mother were activists... they protested several times, and my dad was sent to jail. Just for protesting. They interrogated him for five days, and then... he came back. But he didn't want to leave... But then they arrested other people, and they said that the military was looking for us. That's when we got frighten and we decided to leave.

We didn't know were. I was 16, I didn't want to leave my friends and all. It is not easy to leave... like let's go and that's it. Especially if they are looking for you. But we had to leave... Because the justice system in my country is terrible, they have a special military court for this... There is no supreme court, no appeal, nothing... If the first judge says execution, that's it. We couldn't take that risk.

So my father paid some people to get us out. This is very expensive... all our savings were lost on this. They said, "we need to get you a new passport" "your passport is not good for this". And he got us a Saudi Arabian passport. This was acceptable for many other countries. And we had to dress like Saudi Arabian too! First we thought we were going to Australia, but there was a problem and the smuggler told us that England was better.

We were travelling for several days. And when we were arriving to the UK we had to get rid of all our papers. Because the smuggler had told us... you can't get in with these passports. We didn't speak much English then, only my mom spoke a little.

I didn't want to come here. I didn't want to leave my country and my friends... But I was 16 and my parents had to go. And I had to go with them. And it's OK because I could not have stayed there without them. And maybe... I was in danger too...

Then we were transferred to a very poor neighbourhood, and it was difficult, because I didn't know any English, and I had to go to school. . . But we were happy now, because we were safe, there was no military looking for us here. That was the most important thing, we were relieved. So slowly I started to learn. At the beginning I could only say "I don't speak English", all the time. But then you start to learn the language, slowly.

It's very difficult if you arrive here and have to learn everything from scratch. But I like it here now, I'm doing much better. . . I finished school. . . and I'm more adapted to the culture. . . I'm even getting more used to the weather, with of course is very different from where I come from.

Lin, Asylum Seeker, 22 years old:

I came here about 2 years ago, a few days before my birthday, actually. My parents helped me to come here because the government was persecuting me, because I started writing criticising the government. It is not uncommon there that they jail journalist and dissidents of the communist party, and sometimes they never come out.

I wanted to study journalism for a long time, and during my final years at school I started writing and protesting, because the situation in my country is really bad. Many people are suffering; many people are very. . . very poor. They send me to jail once, and after some very violent protest they came looking for me again.

And I knew that I couldn't go to jail again. We all got really frightened in my house, and my parents told me that I had to leave the country. I just had to leave. But they couldn't come with me. . . I have spoke with them a few times, but it is really hard. It has been really hard for me to be alone here.

When I arrived to the UK I spoke a little bit of English, but really not much. And I started to get really depressed. I remember standing in the queue for the Home Office, and the application for asylum was really difficult for me. I only spoke very little English then, and I didn't understand many of the questions.

And living here it's very hard for the person who doesn't speak the native language. You can't express yourself; and I was really depressed back then. But I had to be strong; there was no other way. And I took some English classes and learnt.

The language is very important for me because I still want to be a journalist, and there is no way to do this if you can't speak or write. I still think I can do it, but it's difficult in my situation. Life was very difficult for me at first. I had no clothes, no place to stay, no friends, and I was living in a country very different. . . with a different culture. But slowly I began to get it together, to build a new life.

But I miss my family. I also have a younger brother, that is 12 years old now. We have only spoken twice. . . and I miss him so much. But I have hope now, I have hope that my application for asylum will be finally accepted, and . . . I don't feel sadness anymore, I feel settled down, and I can laugh and have a good time.

Text for indirect contact condition, Experiments 1 and 2

David, friend of Sami (Asylum Seeker, 21 years old):

I first meet Sami about 3 years ago, because I was in a project helping asylum seekers in homework clubs, and teaching them English. We got along very well, and soon we became good friends.

He escaped from the Middle East with his family about four years ago, because his parents were activists there; they got involved in several protests. His father was sent to jail once, and they interrogated him for five days. They freed him, but then they arrested other people, and Sami's family realised that the military was looking for them once again. So they got frightened and decided to leave the country.

They didn't know where. . . But they had to leave. . . The justice system is quite different there; they have a special military court for this, they have no appeals. . . so if the first judge says execution that's it. So they didn't feel like taking that risk.

And escaping from the Middle East is not easy; it involves dealing with smugglers and that kind of thing. And it is really expensive too; they had to use all their savings for this. They had to get Saudi Arabian passports. . . and they even had to dress like Saudi Arabian. They first thought that they were going to Australia, but then the smuggler told them that that was no longer an option and sent them to the UK.

They were travelling for several days. . . and once they arrived you have to consider that they don't speak English. Only his mother spoke a little. I know that it was difficult for him to come here, and that he didn't want to leave his country, his friends. . . But he was about 16 when all of this happened. . . and he was probably in danger too.

When they arrived, they were transferred to a very poor neighbourhood, and it was difficult because he didn't know any English, and he had to go to school. But they were happy anyway. . . because they were safe. . . because no military was looking for them here. . . they were relieved. But he didn't speak English! He told me that he only knew how to say, "I don't speak English" and that he repeated that

every time someone spoke to him.

So it was really helpful for him to have this homework club to help him in school, and to be able to talk with someone, learn English, and get used to the people here. I know I'm the first friend that he made here, and that's really important because otherwise you are isolated.

Sami is doing much better now, he speaks English fairly well, and that is amazing because it's difficult to learn everything from scratch, he finished school, and he is much better adapted to the UK now, to the culture and also to the weather, which is fairly different from where he comes from.

Sophie, friend of Lin (Asylum Seeker, 22 years old):

Lin is an asylum seeker that escaped political persecution from the Far East. I meet her 2 years ago while participating in a project that gives informal English classes to asylum seekers. Basically we got together in her house and had a conversation once a week. It was a really rewarding experience for me, and we became really good friends.

Lin came here when she was 19, actually a few weeks before her birthday. Her parents helped her to come here, because the government was persecuting her for writing against it. It is not uncommon there that they jail journalist and dissidents of the communist party, and sometimes they never come out.

She wanted to study journalism... and during her final years in school she got involved in protests and started writing for a journal criticising the government, because the situation there is really bad. Many people are suffering. Well, they sent her to jail once, and after some very violent protests they were looking for her again... and that's when she and her family became really frightened. She knew that she couldn't go to jail again. It has been really hard for her to be alone here, away from her family... because they couldn't come with her.

When she arrived to the UK she spoke a little English, but not much really, and the application for asylum was really difficult for her... she just didn't understand many of the questions they asked her.

And living here is very hard for a person who doesn't speak the native language. She couldn't express the way she wanted, and she was really depressed back then. But Lin is really strong, and she took the learning of English really seriously.

The language is very important for her... because she still wants to be a journalist... but it's really difficult in her situation... Life was very difficult for her when she first arrived here: she had no clothes, no place to stay, no friends, and she arrived to a country with a very different culture. But she slowly began to get it together, to build a new life here.

But she misses her family so much... I mean, she also has a younger brother, who it's 12 now, and she has only spoken with him twice since she arrived. She is still waiting for her application of asylum to be accepted, but she has hope now. We still get together from time to time, though she doesn't need that much help with English anymore... and she is so much better than before, emotionally, she laughs with me and we have a really good time together.

Text for control condition, Experiments 1 and 2

David:

I came to the University three years ago to study psychology, and it was quite a new experience for me, because before coming here I had work in between leaving school and starting my degree, so it was kind of strange going back to study again. But it didn't take long for me to get used to that way of living.

It was also kind of weird moving away from all my friends, moving to a new area. I'm originally from London, so moving to Brighton was a whole new experience for me, but... all in all it was a positive one. I really like the area, and it didn't take long for me to make friends at all, because everyone is on the same boat, everyone moved away from their homes, and everyone was looking for other people to be friends with.

I also lived on campus during my first year which was really helpful because that way you are all living together, studying together, and so it's kind of a whole experience, rather than just coming here to study.

I found the course quite difficult at first, because I think learning in the university is different than learning A level, or school, because of the whole kind of independent element of study is a difficult thing to get used to. You have to be very self-motivated to go to the library, to do your work without somebody pushing you to do it. But, it's actually a much better way of learning, when you do have that kind of freedom to learn things that you are really interested in, rather than being told exactly what you have to do.

I also got involved in quite a lot of clubs here as well... I enjoy sports so I joined the football association and I also played a lot of table tennis. And that's also a really great way to make new friends. I'm near the end of my degree now, and it's been a really great experience, and I really hope that other people can have the same kind of experience that I had... I've really enjoyed this. It's been great.

Sophie:

When I first started University, it was great in some ways and not so great in others. I enjoyed the whole new experience of meeting new people and being in a new place, it was quite exiting. Because I grow up in the same town my whole life up until then... But I got really quite home sick, especially during the first term, up until about Christmas.

And also I was in a relationship at the time, kind of long distance. So it was hard in some ways, but it was really rewarding in other ways. I had such a good time, I had new experiences, I was learning about subjects I was genuinely interested in, and once I push through that homesickness of the first term it got so much better. From after Christmas onwards I had been home and I kind of realised that actually I was having a good time were I was.

I found studying quite hard at first, so different to being in school or in college, and so much more independent. You really are on your own a lot of the time, you have to go and do your own study. You don't have somebody setting you deadlines, and telling you when things need to be done, you just have to keep on top of it. But of course it's your first year, so you have fun anyway, and you don't spend your whole time in the library.

I was involved in a few different societies... I sang as part of a gospel choir, which was fantastic fun. Really uplifting kind of stuff, and I was also a member of the drama society, so I had a few plays... and I was also a member of a Rock society, so we used to go out to rock clubs, heavy metal clubs, listening to music and it was really good fun, and it's a really good way of getting to know people. In fact some of my best friends now are people I met through those kinds of activities.

Script for the interactions in the experimental manipulation, Experiment 3

In the case of the Experimental condition, the Muslim participants acted the part of Person B.

Conversation 1.

Person B: *Please start by introducing yourselves. What are you studying? Do you have any hobbies?*

Person A: OK... Well my name is Person A, I'm studying psychology... and hobbies... well I just like to go out with friends, have a nice time... and I used to play football, but I haven't play in a while now...

Person B: Hi, I'm Person B, I don't think I really have any hobbies... I really like to travel... and I try to travel a lot, whenever I can really... Oh and I'm doing history.

Person A: Nice!

Person A: OK, the next question...

Person A: *Given the choice of anyone in the world, whom would you want as a dinner guest? Why?*

Person B: A dinner guest... (long pause) do they have to be alive?

Person A: Mmm... Don't know, I guess any person... it doesn't say...

Person B: OK, I would probably say Derren Brown. I think it would be fun... The guy is really interesting; and... I don't know, maybe he could explain some of the things he does.

Person A: Yeah! Like I'd like to know how he predicted the lottery numbers! (Laughs)

Person B: Haha, yeah. That would be useful. (Laughs)

Person A: OK, I think I would go with... mmm... Bob Marley I think (smiles). And why... just because he is... well he was... (Laughs)

Person A: such a nice guy... It would be an interesting... conversation.

Person B: Yeah... good choice.

Person B: *What would constitute a really great day for you?*

Person A: a really great day... mmm. Well It would definitely be sunny... (laughs)

Person A: Maybe it would be just a day on the beach... like in Greece, with some friends, you know? Have some drinks and relax... go on a boat... that kind of thing.

Person B: Nice! Person A: Yeah... that would be it I guess.

Person B: Yeah... OK, I think it would be nice... to just do nothing for a day... watch some TV. (laughs)

Person B: No, maybe it would be to go to a nice place, in the mountains or something, with my (girl/boy) friend. Ski... meet people... that's it.

Person A: *Is there something that you've dreamt of doing for a long time? Why haven't you done it?*

Person B: Mmm... that's a difficult question...

Person A: Yeah...

Person B: Mmm... Well I wanted to do some volunteering work, there was a project about rebuilding a school somewhere, but I didn't go in the end... There's always just so much going because it's overseas you need some money to do it... But I think it would be brilliant.

Person B: What about you?

Person A: Mmm... I always wanted to write something, like a novel? I actually had some ideas... but I guess it's difficult, like you need a lot of self-discipline.

Person B: What ideas did you have?

Person A: Nah... it was just like science-fiction stuff, but with a lot of drama between the characters (laughs)

Person A: But you really need to spend a lot of time... well, I may actually do it sometime.

Conversation 2.

Person B: *If you could find out anything about your life and the future, or anything else, what would you want to know?*

Person A: Hmm... I don't know... I would like to find out about the future I guess...

Person B: Yeah...

Person A: But not like personal stuff. More like far in the future, to see how things work and if they changed... what happened with global warming or something... (laughs)

Person B: Yeah!

Person A: Soo yeah that. You?

Person B: Mmm... (long silence) I would like to know... about... I don't know, maybe to remember the things I did when I was a toddler, like you don't remember that stuff anymore

Person A: Yeah, you just remember like one or two things.

Person B: Yeah exactly - And it would be nice to know what I was thinking at that time, you know, when I was two, or four... OK, next question then.

Person A: *If you could go back in your life and change any one experience, what would it be and why?*

Person B: Wow... (laughs)

Person B: Erm... Well... once I was dating someone for a long time... and it was like a very bad relationship...

Person A: Mmm.

Person B: So in the end it was a huge waste of time... and you know all my friends told me, but it took me a long time to realise, you know?

Person A: Yeah.

Person B: but I guess you learn something from it so... What about you?

Person A: So... if I could change any one experience... Mmm, maybe I would have more fun in secondary school, I was like a good student, all responsible...

Person B: Mmm. Person A: Yeah, it would have been better to go out more, do sports, play music... that kind of thing

Person B: Yeah. OK...

Person B: *Share with your partner an embarrassing moment in your life.*

Person A: God! (laughs)

Person A: OK, an embarrassing moment... Mmm... There are so many! (laughs)

Person A: OK, so I went to buy a card for my friends' birthday... it was late and the shop was just about to close, so the guy in the shop kept looking at me with that face... like "you should hurry up", "hurry up".

Person B: (Laughs)

Person A: Yeah! But It took me forever to choose a card! I was at least... I don't know, like 15 minutes. And then when I finally chose it, went to the till, and realise that I forgot my wallet! (laughs)

Person A: so yeah, that was pretty embarrassing... what about you?

Person B: OK, so I was at a wedding with some friends, and I thought I would be nice and introduce them to a nice couple that was also there... So I tell them, well these are my friends so and so, and I give their names, and then I realised that it was not the couple I was thinking off... they were strangers! (laughs)

Person B: And actually, this couple said to me and my friends, "Excuse me... I think we are not who you think we are"! (laughs)

Person A: that's so funny!

Person B: So obviously my friends still make fun of me about that. (laughs)

Person A: OK, so this is the last question...

Person A: *Tell your partner about an important accomplishment in your life, or something that makes you proud*

Person B: Mmm. OK, so a couple of years ago I got certified as a lifeguard.

Person A: Nice.

Person B: Yeah! It took me a lot of effort actually... it was a very intense course and the exams were really difficult... But I really like it, it's a nice job!

Person A: Cool! Well, I once won an essay contest in school... I was so happy, and my parents were proud, you know? (laughs)

Person A: So I got a cash Prize, and the essay was printed in a local newspaper.

Person B: Wow.

Person A: Yeah... so that's it I guess...

Person B: ... so ... are we supposed to go out now?

Person A: Mmm... I suppose... (both stand up)

Person B: Yeah. Mmm... Well it was very nice meeting you

Person A: Yeah! You too! (walk towards the door)

Script for confederates, Experiment 3

The script is just an outline of the answers. Feel free to expand based in your own experience. In some places I added "more info" in case you are asked an obvious follow up question. If it's not included here, improvise with your own experience. The script does not include anything directly related to being Muslim. In case someone asks, feel free to use your own experience of the topic to answer.

1. *Please start by introducing yourselves. What are you studying? Do you have any hobbies?* Hi, my name is [your name], I'm studying sociology (unless the participant is studying sociology, then say history). I like to cycle, especially going to the downs with my bike... More info: you are in your second year.

2. *Given the choice of anyone in the world, whom would you want as a dinner guest? Why?* Right now? It can seem strange but I think I would say my family, I haven't seen them in a long time, so it would be nice to have dinner with them. More info: you have not seen them in about a year.

3. *What would constitute a really great day for you?* Just going to the beach in Brighton, in summer, with friends, and have a really good time.

4. *Is there something that you've dreamt of doing for a long time? Why haven't you done it?* I would really like to do bungee jumping. I once was going to when I was younger but my parents didn't let me. More info: you were about 14 when this happened.

5. *If you could find out anything about your life and the future, or anything else, what would you want to know?* I'd like to know how my life would have been if I had made different decisions, like if I had stayed in my country instead of coming here, for example. Or if I had decided to study something else, etc.

6. *If you could go back in your life and change any one experience, what would it be and why?* I would travel more around my country, like take a gap year before coming here. More info: use your own country

7. *Share with your partner an embarrassing moment in your life.* Once I was going to the movies with a friend, but my friend couldn't go so I had to go alone. When I was watching the movie, I started to grab popcorn from the guy sitting next to me. I just didn't realise I was alone! So when I reached to grab popcorn like for the third time, the guy grabs my hand and says, well if you want to have some you could at least ask!! so embarrassing.

8. *Tell your partner about an important accomplishment in your life, or something that makes you proud.* Coming to study and live here, it's hard to change your life so much, leave all the people you know and make new friends... and I think I've done it really well.